DEC 19 1947

Textile Industries

DECEMBER, 1947

formerly COTTON Textile Industries

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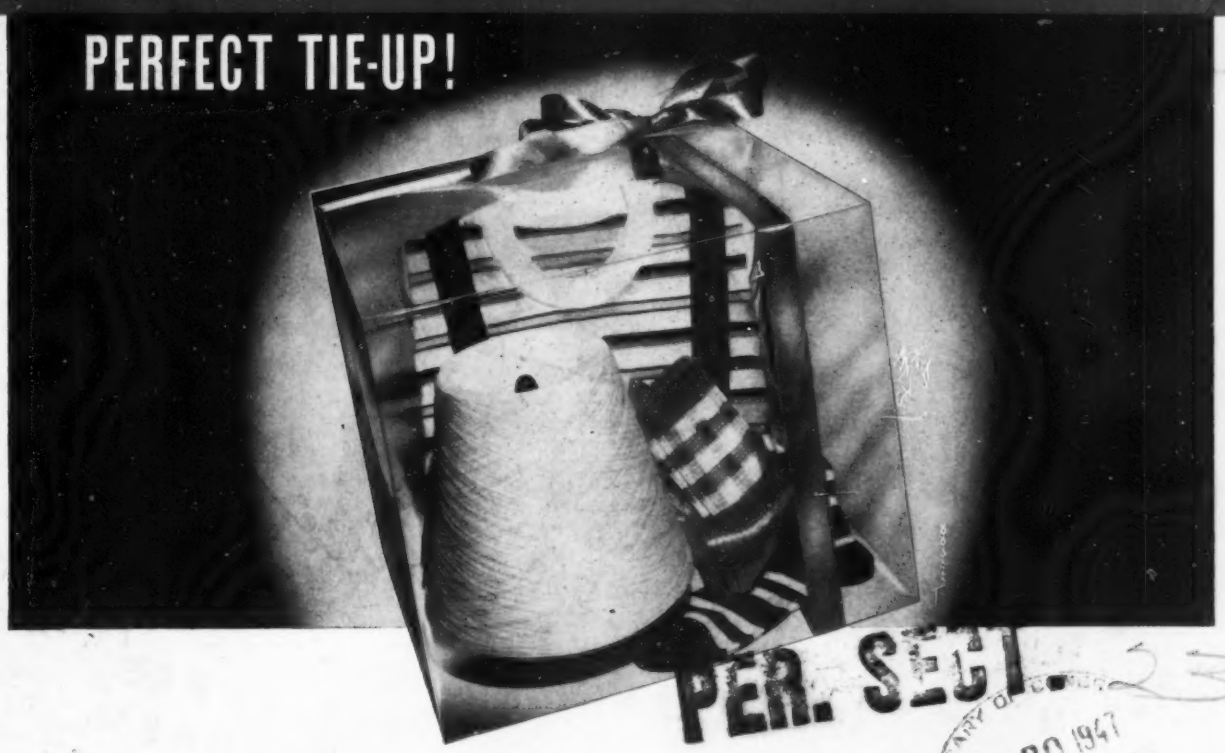
PERFECT TIE-UP!



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Volume 111 Number 12

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you are *Buying Performance!*

More important—you are buying PROVED performance. That you can get more and better cloth at less cost from Draper looms is not just an idea . . . it is an accepted fact . . . proved beyond doubt.

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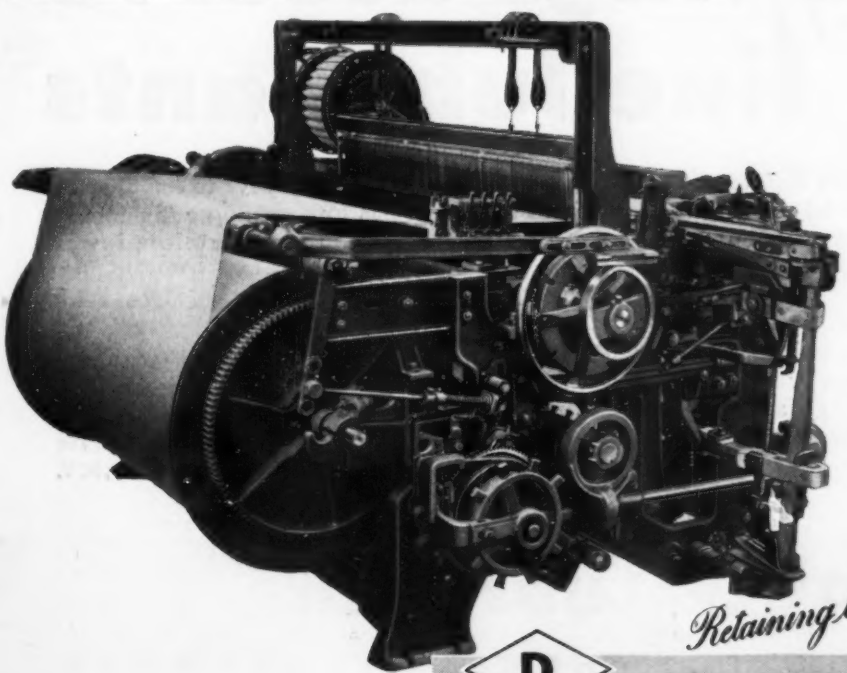

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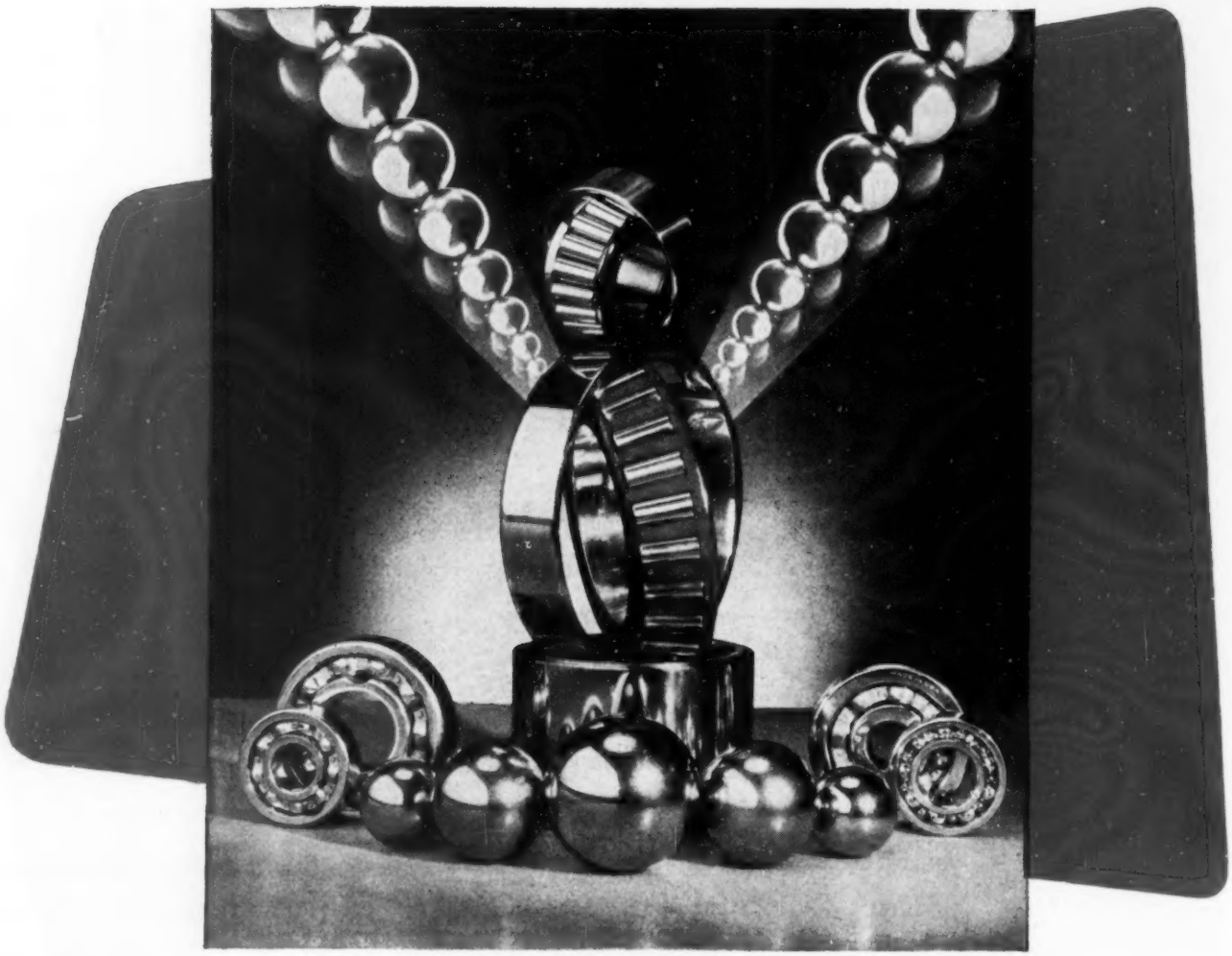

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Textile Industries

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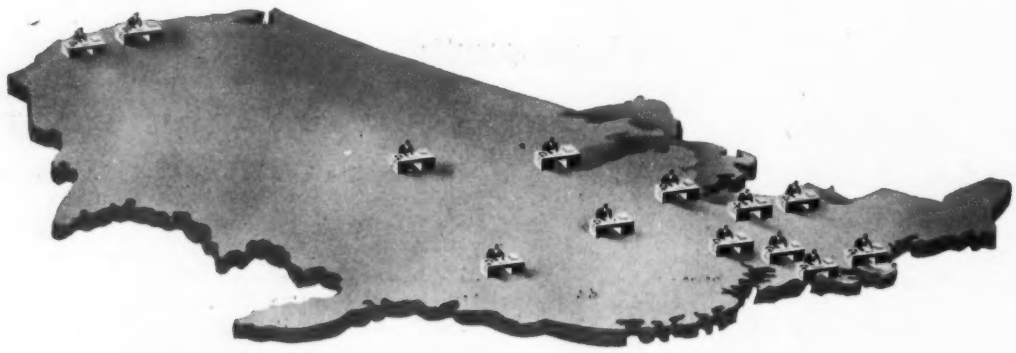

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Certain buyers of abrasives find the measure of their sources of supply in the local representatives of abrasive manufacturers. Therefore, it is a matter of great satisfaction to us to have men of ingenuity and experience representing us in key locations throughout the country. It is by means of our district organization that users are given direct access to the engineering, research, and wide scale technical activities of The Carborundum Company. It is their intelligent handling of abrasive problems, and their sincerity in serving customers needs that makes every user think first of CARBORUNDUM, when they think of abrasives. The Carborundum Company, Niagara Falls, New York.

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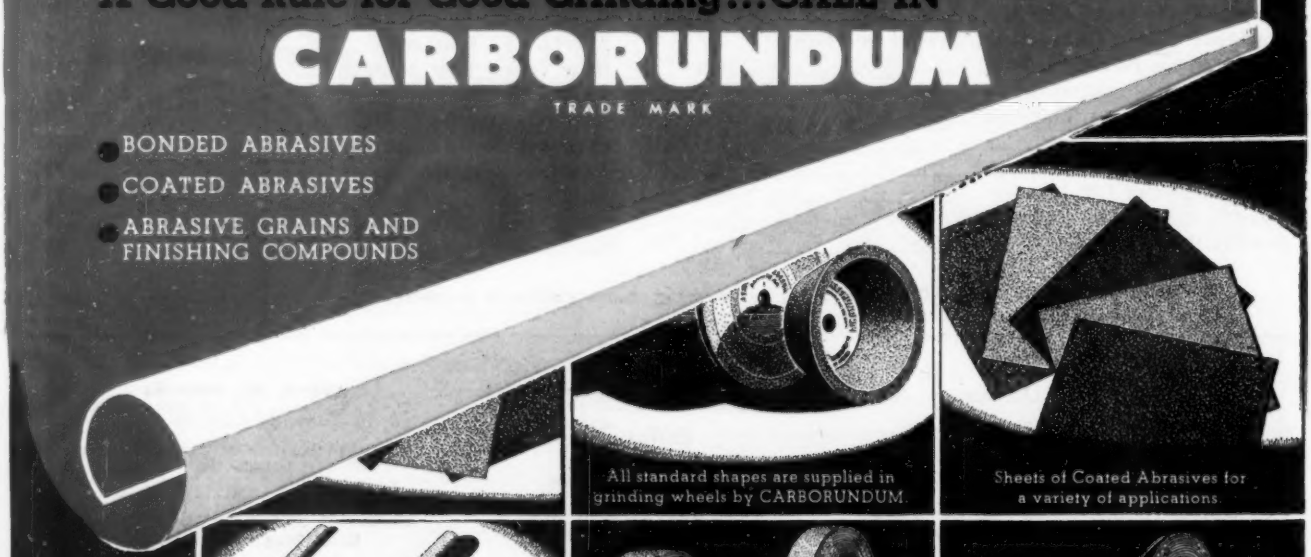

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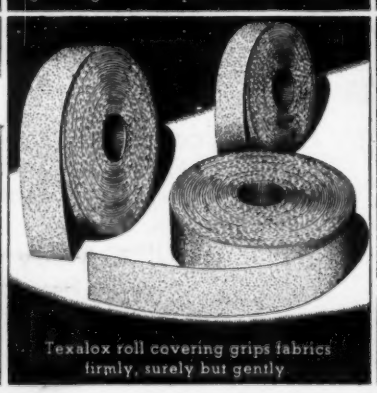
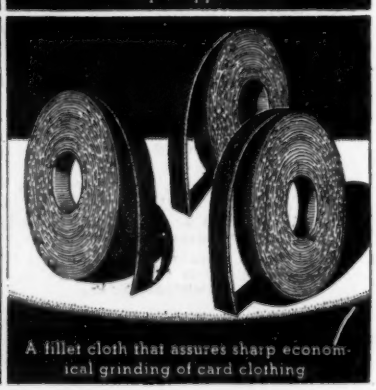


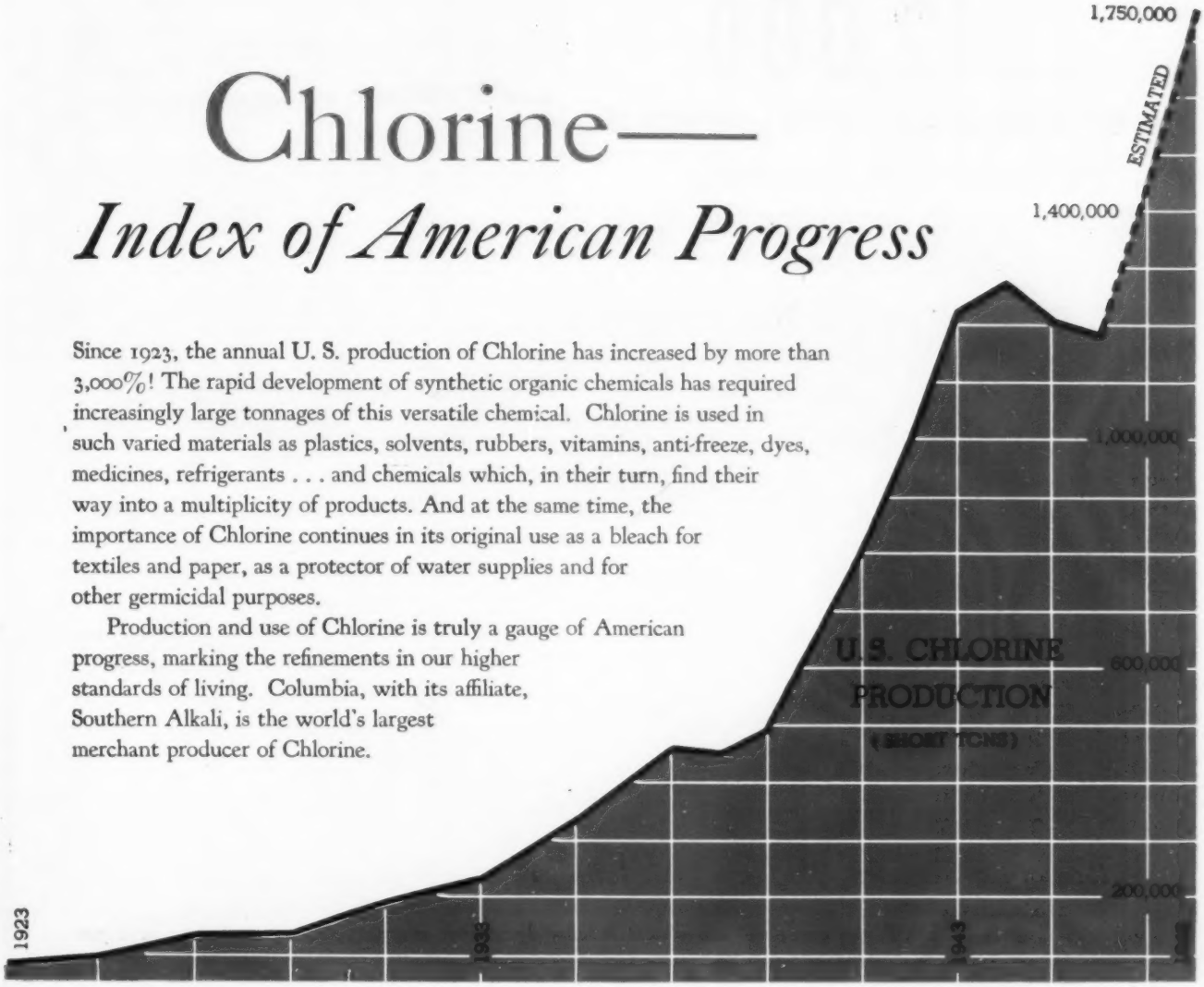
Texalox roll covering grips fabrics firmly, surely but gently.



A fillet cloth that assures sharp economical grinding of card clothing.

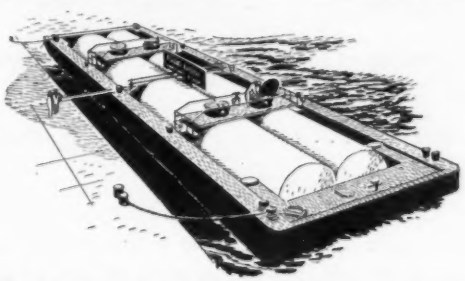
Chlorine—

Index of American Progress



Since 1923, the annual U. S. production of Chlorine has increased by more than 3,000%! The rapid development of synthetic organic chemicals has required increasingly large tonnages of this versatile chemical. Chlorine is used in such varied materials as plastics, solvents, rubbers, vitamins, anti-freeze, dyes, medicines, refrigerants . . . and chemicals which, in their turn, find their way into a multiplicity of products. And at the same time, the importance of Chlorine continues in its original use as a bleach for textiles and paper, as a protector of water supplies and for other germicidal purposes.

Production and use of Chlorine is truly a gauge of American progress, marking the refinements in our higher standards of living. Columbia, with its affiliate, Southern Alkali, is the world's largest merchant producer of Chlorine.



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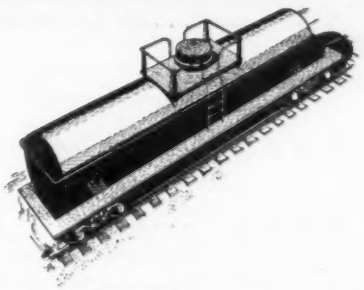

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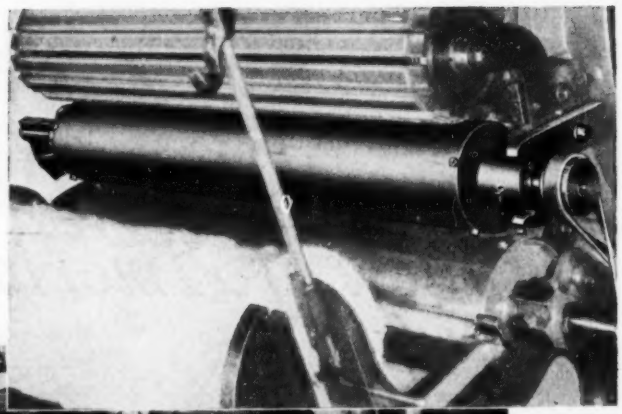
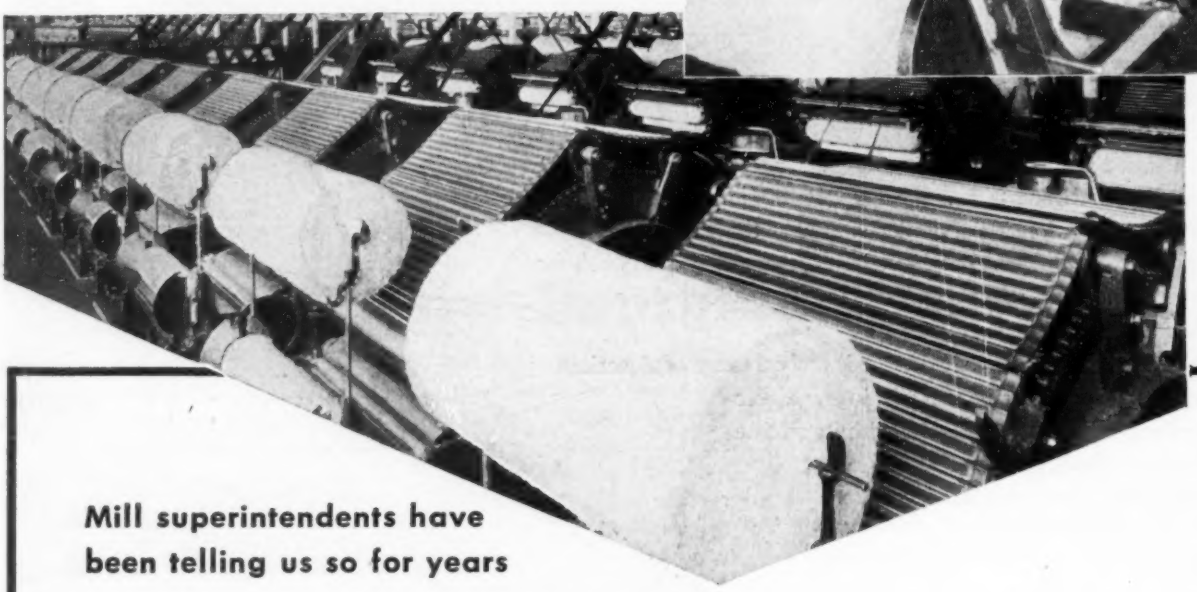
CONTINUOUS STRIPPERS

are saving time, increasing production and improving quality in American mills





Mill superintendents have been telling us so for years

Here are a few excerpts from their letters:

1930 *". . . the cards will run almost indefinitely without stripping . . . we expect to send you an additional order."**

1936 *". . . we feel you are conservative in your claims."**

1940 *". . . we are very well pleased with the performance of this equipment . . . we have found definite savings as well as more uniform work."**

1943 *". . . they have paid for themselves many times over . . . we could not get along without them."**

1946 *". . . Mr. ——* is high in his praise of our Continuous Strippers. Says they are doing a wonderful job, and he really has good-running work to prove it. Very seldom see an end down on spinning, even though he is running some irrigated cotton which several of the other mills in this group say they cannot run."*

1947 *". . . Mr. ——* told me that since installing these strippers the yarn breaking strength had gone up and the looms were running at a higher efficiency."*

**Name on request.*

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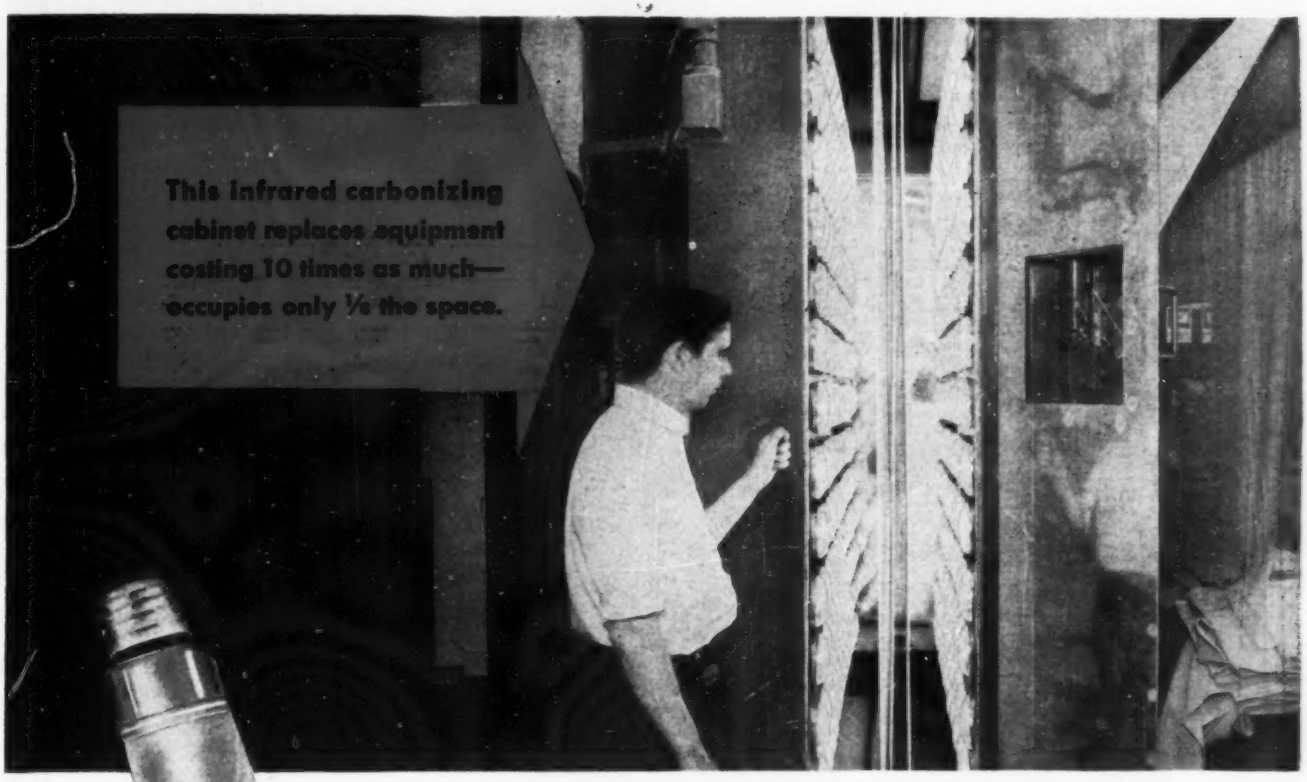
WESTINGHOUSE INFRARED HEATING CUTS COSTS IN TEXTILE PROCESSING



You Can Do Many Drying and Heating Jobs In Your Plant Faster, Easier and Cheaper with Westinghouse Infrared Lamps

Whether your primary interest is in cutting costs or speeding production, it will pay you to get the facts on infrared processing. In addition to wool carbonizing, slasher drying, curing resins, fixing printed fabrics, drying after all sorts of wet processing—many new uses are continually being found for this modern, more efficient, faster heat. To explore the opportunities in your plant for cutting costs and speeding production with Westinghouse industrial infrared lamps, write for further information to Westinghouse Electric Corporation, Lamp Division, Bloomfield, N. J.

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FREE!

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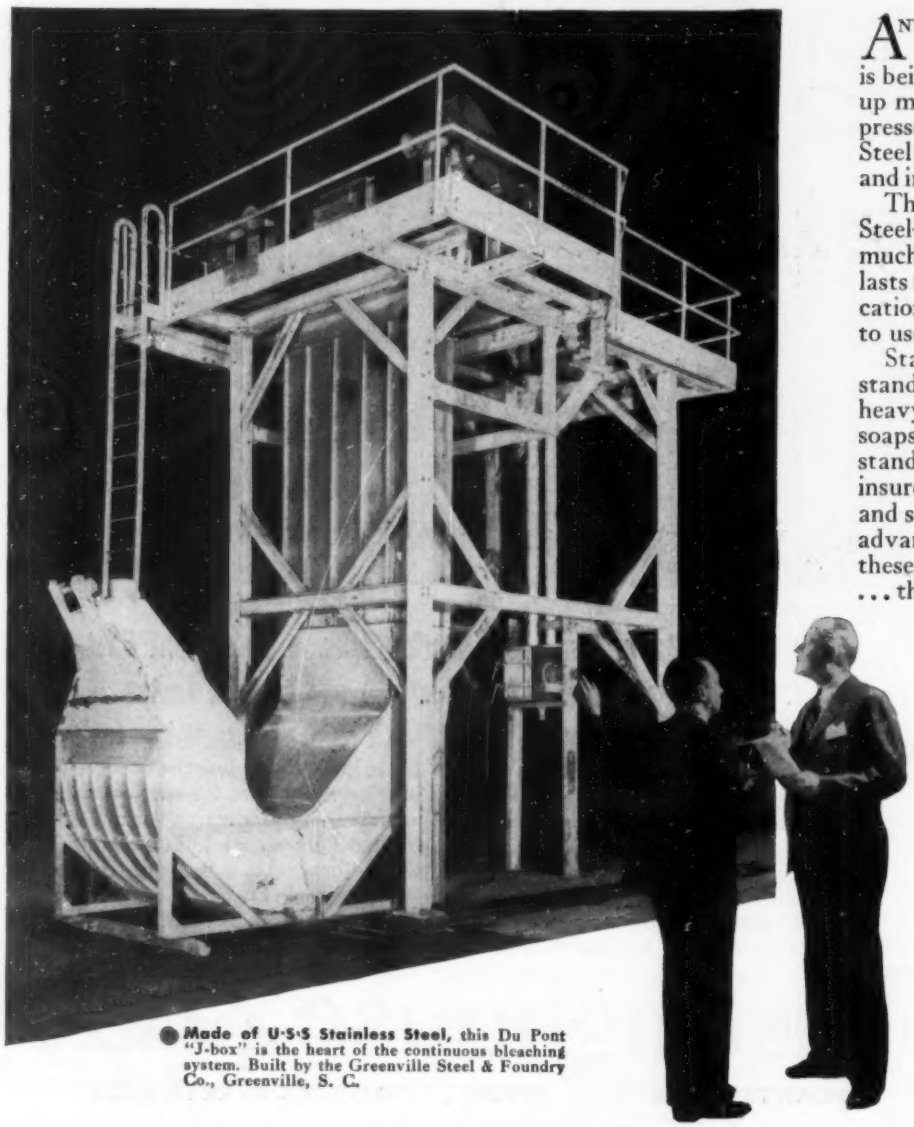
nothing equals Stainless Steel!



Made of U·S·S Stainless Steel, this Du Pont "J-box" is the heart of the continuous bleaching system. Built by the Greenville Steel & Foundry Co., Greenville, S. C.

ANY textile man, reviewing the great variety of fine, new equipment that is being developed to improve and speed-up mill production, cannot fail to be impressed by one striking fact — Stainless Steel is being used in greater amounts and in many more places than ever before.

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In addition, Stainless Steel's dense, polished surface makes fast, thorough cleaning a simple matter, saves time and eliminates color bleeding and carry-overs. Its permanent smoothness insures freedom from snagging, avoids damage to yarns and delicate fabrics.

That's why, in their new designs, leading builders of textile mill equipment are putting these advantages of Stainless Steel to work for you wherever possible. They *know* that Stainless more than pays for itself.

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

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THE BIG 3 FOR BIG SAVINGS

HERE are three standout performers that have proved their worth in countless installations. They exemplify the economy, the long life, the tried-and-true dependability you get from all Goodyear Industrial Rubber Products.

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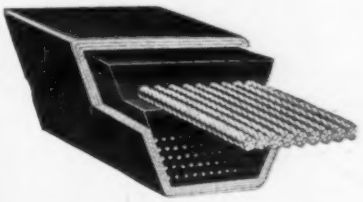
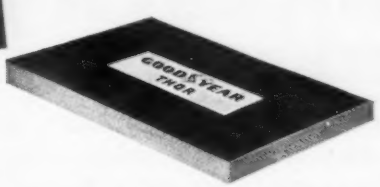
YOU'LL SET NEW PERFORMANCE STANDARDS WITH THESE OLD RELIABLES

TEXAIR HOSE — most economical ever built for cleaning spindles and carding machines. Light, supple, unusually strong cover won't soften or weaken from contact with oil, but is tough and resists cutting and abrasion, insuring longer life.



E-C CORD MULTI-V BELTS are uniform in length, cross section, pull and service life. Their perfect teamwork insures lowest ultimate cost.



THOR BELTS are square-edged, top-quality, close-woven, silver duck belts designed for high-speed drives where there is severe flexing over small pulleys — and for heavy drives requiring shock load resistance and the ability to hold fasteners.

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SIMPLIFY HOSE CONNECTIONS

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Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. DECEMBER, 1947

AVC Textile Chemicals listed to show their many uses

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2. Lubricant for voile twist type rayon and acetate filling yarns. Also for other constructions to improve throwing and weaving efficiency.
3. General size and lubricant where solvent method of application is desirable.

"AVCONIT" #4
1. Same as #3 but especially for acetate.
2. For operations where ease of scouring at lower temperatures is necessary.

"AVCONIT" WD
1. Size and lubricant for hosiery yarns for water emulsion.
2. General size and lubricant for emulsion application.

"AVCOSEW"
1. Lubricant for sewing thread of all types. Particularly effective for rayon, cotton and nylon. Applied in dyeing equipment or standing bath.
2. Anti-static agent and general lubricant for all yarns.

"AVCODISK"
1. Wax disc for applying lubrication during winding operations to tricot, knitting yarns, etc.

"AVCOLUBE" 100
1. Powerful softening, lubricating and anti-static emulsifiable wax.
2. Finish for stock dyed rayon and cotton staple, dyed knitting yarns for skein, package or beam methods.
3. Anti-static agent for acetate and nylon.
4. Promising applications in woolen-worsted trade.

TWEEN 20
1. Liquid lubricant and anti-static material for application to nylon by emulsion roll or wick for seaming and looping thread.
2. General lubricant for various yarns and fibers.

Book of Facts and Samples Tells Story of Avisco Crimped Staple

Samples of interesting yarns and cloths made with the newly introduced Avisco Crimped Staple are included in the pages of a special booklet released by American Viscose Corporation.

Striking feature of the new staple is the permanence of its crimp. Wetting and drying the fiber under tension removes the crimp. But when rewet, and dried out in a relaxed state, the crimp returns in full.

The fibers at left are regular rayon staple. At right, the new Avisco Crimped Staple that gives fabrics a crisper, loftier hand.

Hailed as a development of importance to the textile industry, the new fiber has already demonstrated its usefulness in soft nap fabrics—either in blends or by itself—to which it imparts high, desirable bulk and warmth without excessive weight. In higher twist fabrics like gabardine, it gives a notably lively, full hand.

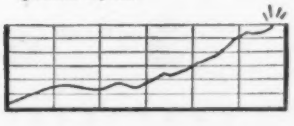
Avisco Crimped Staple, the booklet points out, is available in 1.5, 3.0 and 5.5 deniers, and in a useful range of lengths, both uniform and varied. The book also contains a section on the high running efficiencies of Avisco Crimped Staple based on tests on full size textile machinery at the AVC Textile Research Department and in mills.

Copies of the booklet are available on request to American Viscose Corporation, 350 Fifth Ave., New York 1, N.Y.

RAYON 20 YEARS AGO

ROANOKE, VA., Dec. 1927—The sixth unit of the plant of The Viscose Corp. of Va. is nearing completion.

NEW YORK, Dec. 1927—November production of rayon by American Viscose plants was at the rate of nearly 47 million pounds a year.



BOSTON, Nov. 1927—Knitters now take more than half of all the rayon produced.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

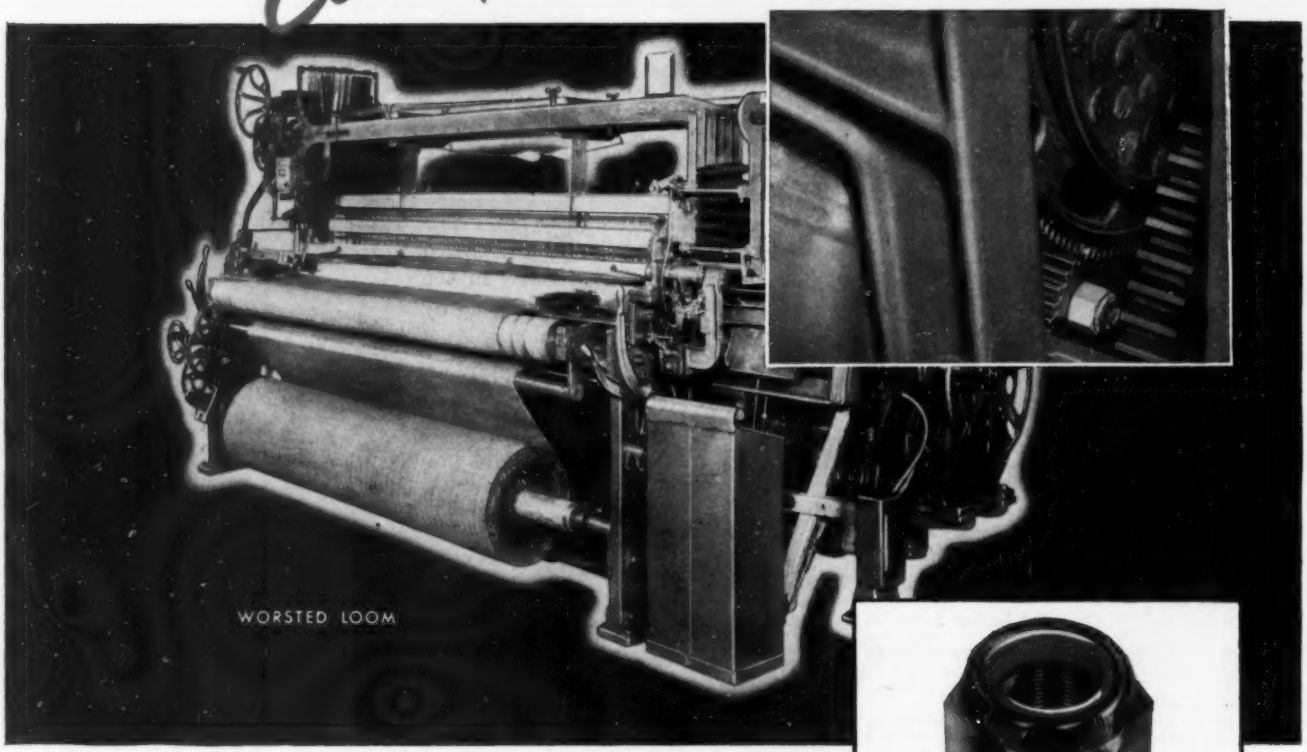
1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

SELF-LOCKING *Prevents Costly Wear* ON THE MOTOR PINION GEAR SHAFT

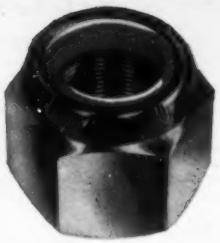


The Red Elastic Collar protects prestressed settings against IMPACT! VIBRATION!

Vibration—built up by the distinct shock, or pounding, of the gears at pick and beat up—can cause costly wear if the pinion gear fastener fails. A loose pinion gear has a tendency to cause excessive tooth wear. This may result in changed gear alignments, replacement damage to the tapered armature shaft, and upset split-second, synchronized loom timing. Finally uneven power delivery produces a wavy cloth condition that degrades goods to #2 or #3 quality.

Here's a suggestion to loom fixers: Apply ESNA Elastic Stop Nuts to your pinion gears and other vibration trouble spots every time you have to remove an ordinary fastener for repairs or adjustment. Your maintenance orders can be filled immediately from stock.

Re-usable Elastic Stop Nuts—with the self-locking, self-sealing Red Elastic Collar—provide dependable protection against Vibration, Thread Corrosion, Thread Failure, and Liquid Seepage. ESNA engineers are now ready to study your fastener problems. Address: Elastic Stop Nut Corporation of America, Union, New Jersey. Sales Engineers and leading Distributors are located in many principal cities.



LOOK FOR THE RED COLLAR

THE SYMBOL OF SECURITY

It is threadless and dependably elastic. Every bolt—*regardless of commercial tolerances*—impresses (does not cut) its full thread contact in the Red Elastic Collar to fully grip the bolt threads. In addition, this threading action properly seats the metal threads—and eliminates all axial play between the bolt and nut.

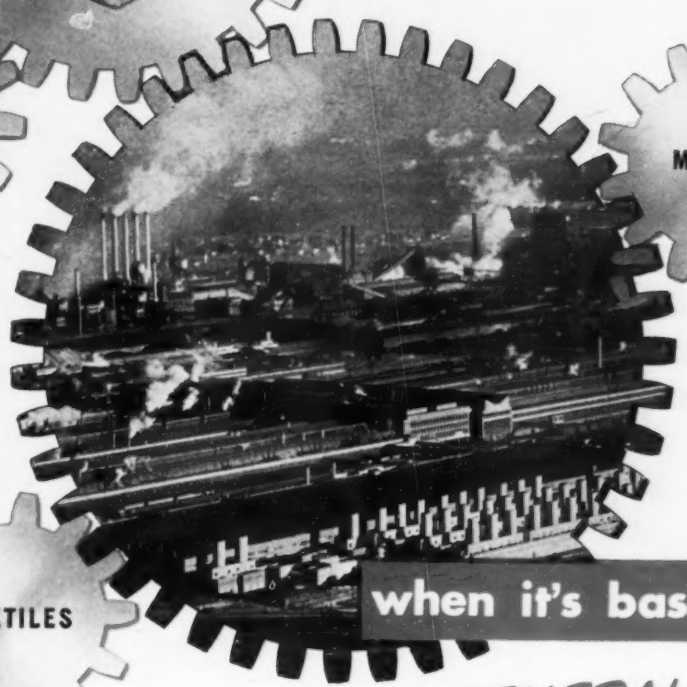
All ESNA Elastic Stop Nuts—*regardless of size or type*—lock in position anywhere on a bolt or stud. Vibration, impact or stress reversal cannot disturb prestressed or positioned settings.

ESNA TRADE MARK

ELASTIC STOP NUTS

PRODUCTS OF: ELASTIC STOP NUT CORPORATION OF AMERICA

GEARED TO THE NEEDS OF INDUSTRY



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METALS
WATER & SEWAGE
LEATHER
TEXTILES
PETROLEUM
SOAP
GLASS & CERAMICS
DRUGS

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This way, General Chemical products are always geared to the needs of Industry . . . their grades and strengths meeting the most exacting requirements of the day. From such closely meshed efforts are coming General Chemical's new organic and inorganic chemicals for the process industries of tomorrow. The past stands proof that these, too, will be equally essential "Basic Chemicals for American Industry."

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ALLIED CHEMICAL & DYE CORPORATION
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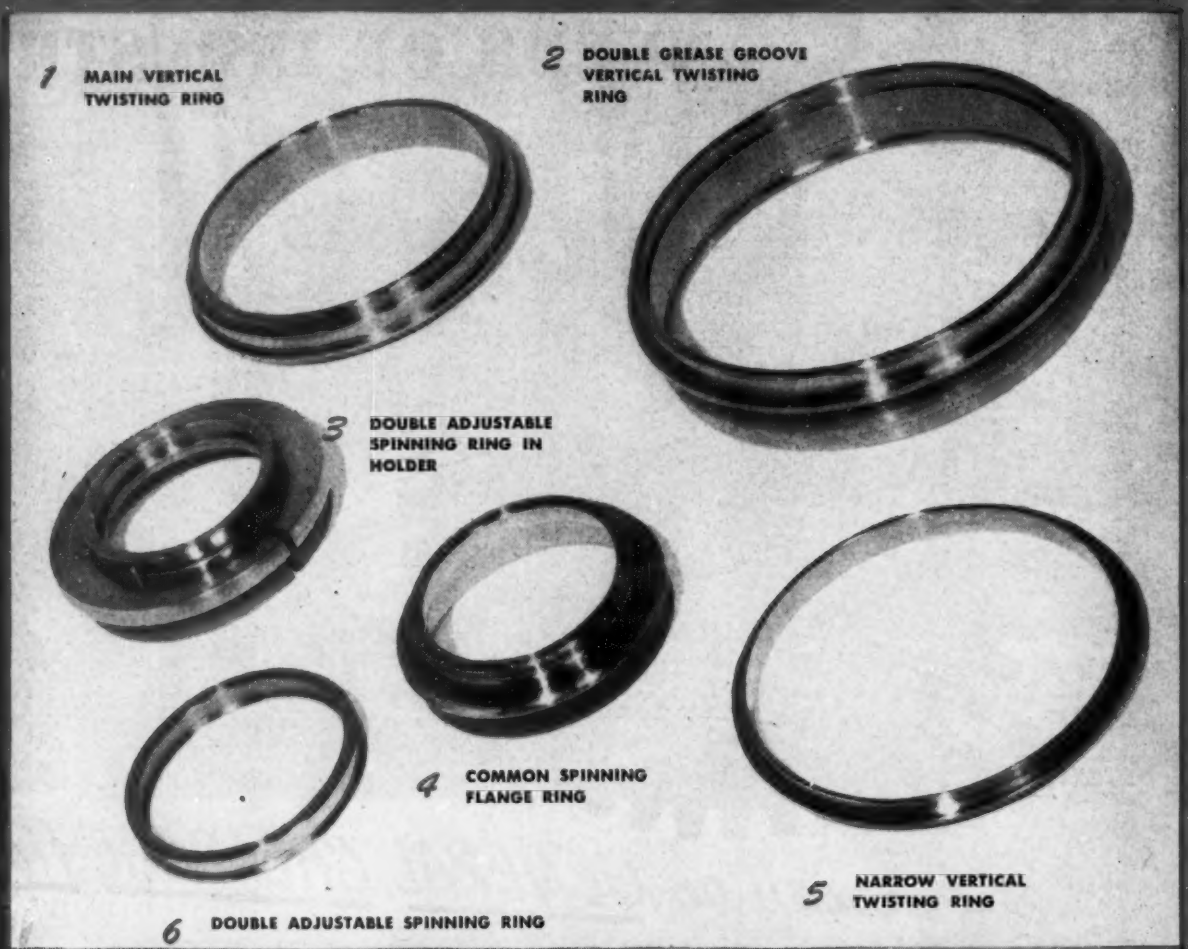
BASIC CHEMICALS
FOR AMERICAN INDUSTRY

H & B SPINNING


1 MAIN VERTICAL TWISTING RING
2 DOUBLE GREASE GROOVE VERTICAL TWISTING RING
3 DOUBLE ADJUSTABLE SPINNING RING IN HOLDER
4 COMMON SPINNING FLANGE RING
5 NARROW VERTICAL TWISTING RING
6 DOUBLE ADJUSTABLE SPINNING RING

Quality Rings

Rings for spinning and twisting are fashioned with full awareness of the meaning of quality at H & B. They are designed, turned and inspected by skilled engineering craftsmen, and are recognized throughout the textile industry as unsurpassed in quality of manufacture and performance.

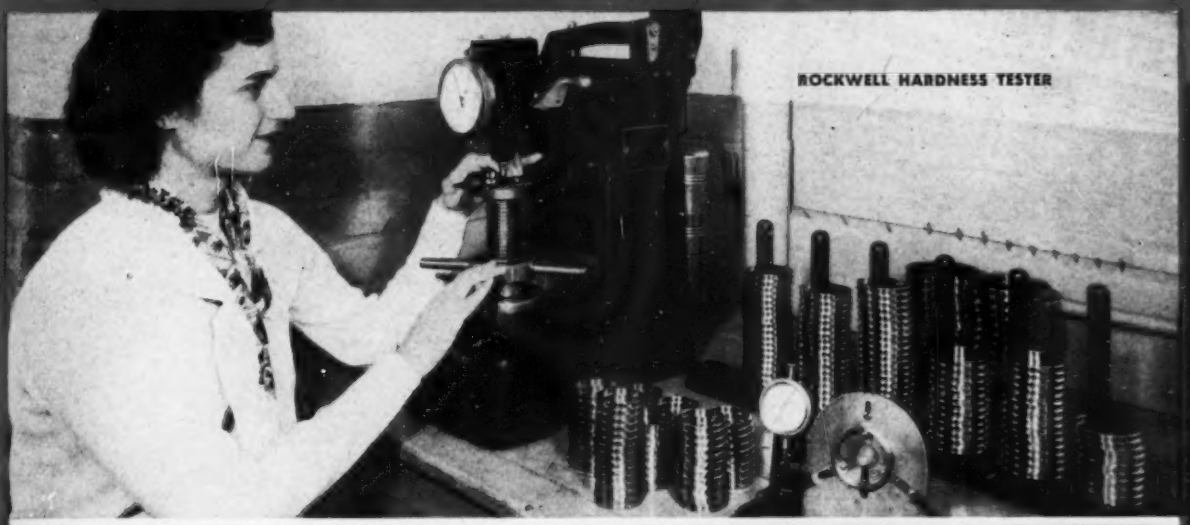
Completely modern in design, H & B rings are distinguished by several exclusive innovations. One such feature, recently designed and developed, materially reduces wear on both ring and traveler.

H&B AMERICAN

Builders of Modern

FACTORY EXECUTIVE OFFICES AND EXPORT

AND TWISTING...



ROCKWELL HARDNESS TESTER

RING INSPECTION

From the beginning, modern precision turning equipment in the hands of skilled workers fashions the finished product to exact standards of smoothness and roundness. Proper heat treating hardens the steel for lasting durability. Inspection assures complete conformity with our rigid standards and rejects defective rings, however slight the flaw. The burnished luster of the rings must be perfect, their roundness and hardness correct to the most exacting degree.

When you order rings from H & B you know that every detail in their design and manufacture means superior ring performance on your spinning and twisting frames. Our rings take an important place in the overall picture of the achievement of quality at H & B.

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Textile Machinery

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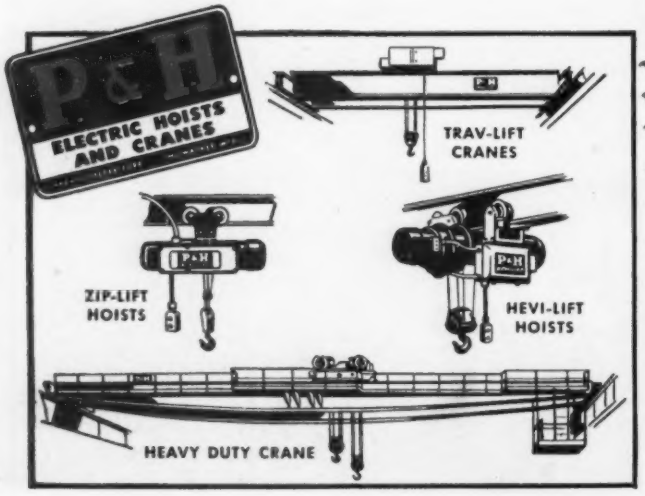
WHEN YOU HANDLE TEXTILES "THRU-THE-AIR"

Lifting, lowering, carrying and placing of heavy loads! It's all a matter of push-button control . . . when you handle textiles with P&H Electric Hoists.

Quickly, effortlessly, your loads move "thru-the-air." No rehandling is necessary. You save time and money on every move. Handling is clean, too . . . adaptable to all textile operations.

See how other textile mills are cutting their costs with P&H Hoists. Write us today. A P&H Hoist Engineer will be glad to discuss your specific requirements.



The "Extras" Are STANDARD EQUIPMENT, Added Values on P&H Hevi-Lift Hoists

- Shaved gears for lifetime service . . . all bearings grease-sealed.
- Thermal overload protection against motor burn-outs . . . twin brakes for extra safety.
- Motors specifically designed and built by P&H for hoist service — high starting torque, frequent reversals, etc.
- Effortless push-button control . . . available for all motions and with variable speed feature.
- Transformer provides 110 volts at push-button.
- P&H's true motor ratings assure against failure at full capacity loads and speeds.

P&H ELECTRIC HOISTS
Milwaukee 14, Wisconsin
4644 West National Avenue

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Franklin Process COLORS
SELL QUALITY FABRICS
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NEW YORK REPRESENTATIVE: 40 WORTH STREET

WINDING is of utmost importance to the package dyer. He must get good winding at low cost. The Foster Model 102 completely satisfies these requirements.

GOOD WINDING — The Foster 102 winds at uniform speed for any package diameter and therefore produces a package of uniform density so necessary for best dyeing. Accurate tension and pressure controls assure this consistent high quality winding.

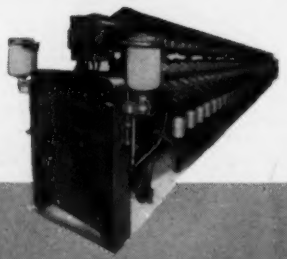
LOW COST WINDING — The Foster 102 produces twice as much as obsolete models at only 2/3 the operating cost. Labor saving features such as self-threading tension devices, empty bobbin conveyors, quick-doffing package holders and automatic stop motions contribute to this performance. Repair costs, too, are less, running as low as $3.50 per year per 100 spindle machine.

FLEXIBILITY — The Foster 102 can wind at different angles simply by changing 4 small gears and can be converted to wind cones or tubes at relatively small expense.

FOSTER MACHINE CO.
WESTFIELD, MASSACHUSETTS

Southern Office: Johnston Building, Charlotte, North Carolina; • *Canadian Representative:* Ross-Whitehead & Company, Ltd., University Tower Building, 660 Ste. Catherine Street West, Montreal, Quebec. • *European Representative:* Muschamp Taylor Limited, Manchester, England.

BULLETIN A-95 ON REQUEST



FOSTER MODEL 102

FOR WINDING COTTON, MERCERIZED, WOOL, WORSTED, MERINO, SPUN SILK OR SPUN RAYON YARNS

How to add *Life* to your CARD CLOTHING

To get best results from flexible card clothing, see that the fillets are put on the cylinder or doffer with the correct tension. Then to insure continued top performance and to add life to the clothing, redraw when necessary.

If the grinder discovers raised or lifted fillets, he should report it immediately, for such a condition permits the wire to be pushed underneath the fillet; the angle of the wire setting is changed and the carding capacity of the wire is destroyed. On the other hand if raised or lifted fillets are redrawn promptly, while the wire is still in good condition, efficient carding action is again assured and the life of the clothing will be greatly prolonged.

The best way to detect raised or lifted fillets and other card defects is to have your cards inspected at regular intervals. An Ashworth service man will do this for you, free of charge, and will arrange a repair program which will involve minimum expense and minimum loss of productive time.

Ask us about it.

PRODUCTS AND SERVICES

Card Clothing For Cotton, Wool, Worsted, Silk, Rayon And Asbestos Cards And For All Types Of Napping Machinery · Brusher Clothing And Card Clothing For Special Purposes · Lickerin Wire And Garnet Wire · Sole Distributors For Platt's Metallic Wire Lickerins And Top Flats Reclothed

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AMERICAN CARD CLOTHING CO. (Woolen Div.)
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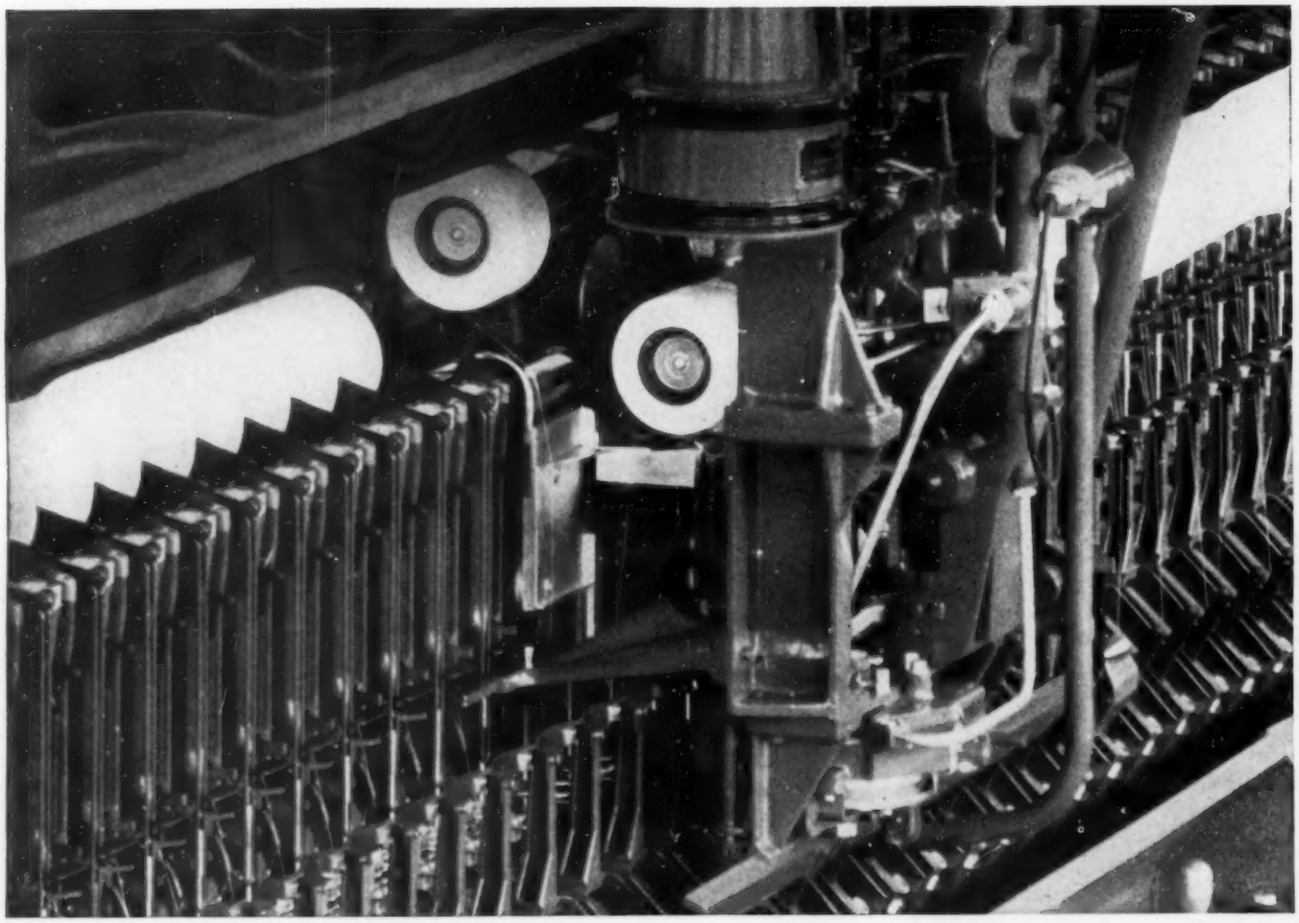
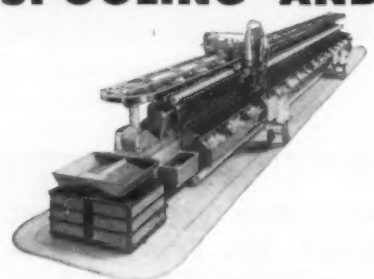
Dallas†‡ (Textile Supply Co.)
*Factory †Repair Shop ‡Distributing Point

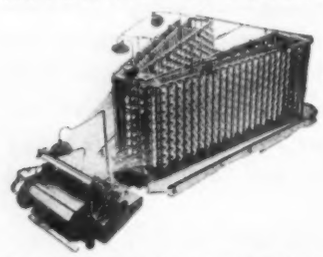
3 FACTORIES · · · 6 REPAIR SHOPS · · · 7 DISTRIBUTING POINTS



EVEN WHEN RUN ONLY PART TIME, BARBER-COLMAN SPOOLING AND WARPING IS A GOOD INVESTMENT



AUTOMATIC SPOOLER



SUPER-SPEED WARPER

While the Barber-Colman System of Spooling and Warping has been generally accepted as "standard" in American cotton mills, many mill men have thought that it could perform to advantage only in the larger mills. This is not the case. The economies which can be achieved with Barber-Colman equipment are so substantial that the machines can be a good investment for many of the smaller mills *even though the number of looms to be served is such that the equipment is not run to full capacity.* This has been proved in a number of instances. The purchase of each of these machines was preceded by a careful survey of the individual mill conditions which proved that the investment would be a paying proposition. Before you discard the idea of using Barber-Colman Spooling and Warping as "only for the big mills", ask for a survey — there is a good chance that it may show how you, too, can reduce costs and improve your product. Ask your Barber-Colman representative for detailed information.

AUTOMATIC SPOOLERS-SUPER-SPEED WARPERS-WARP TYING MACHINES-DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

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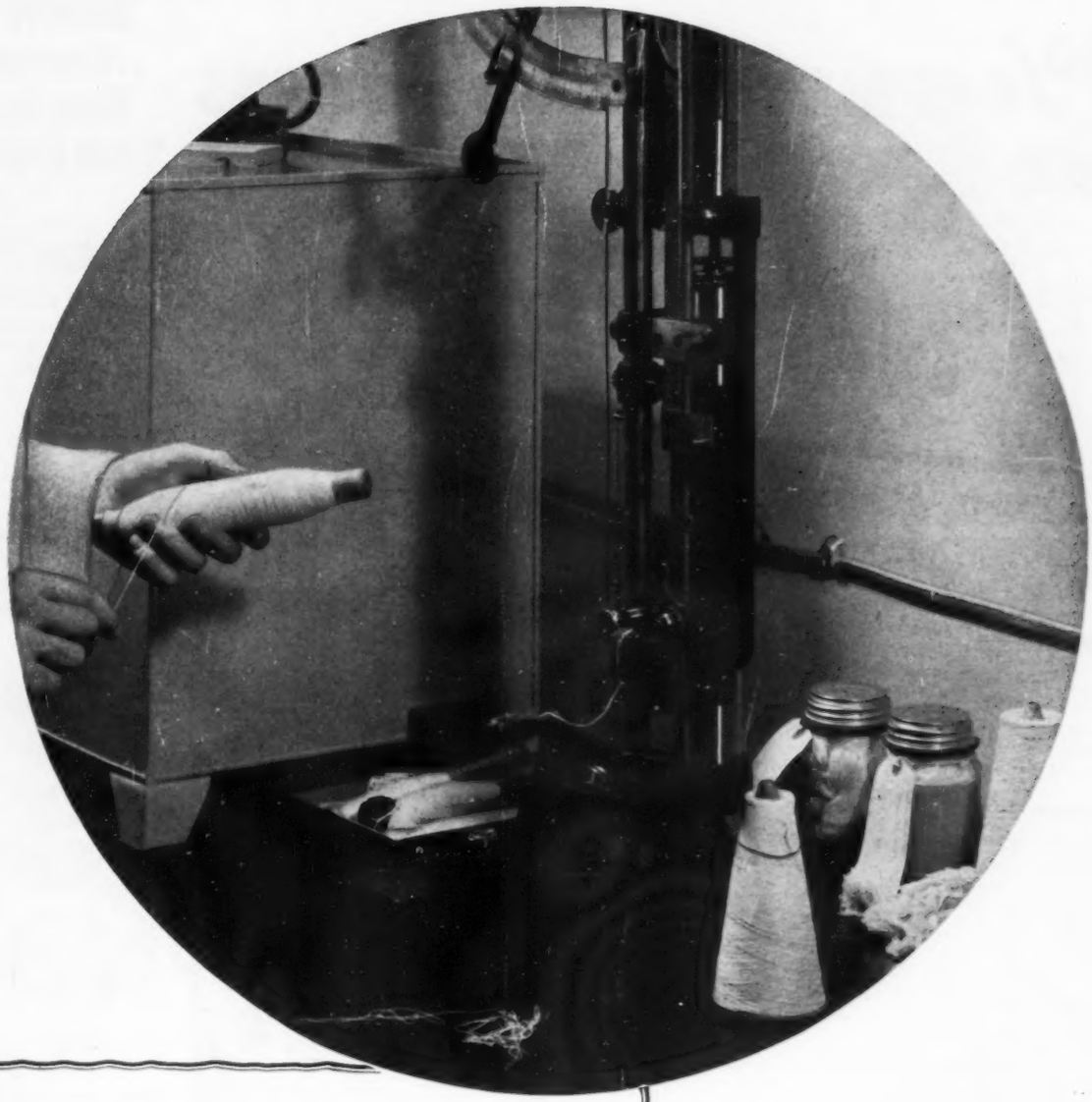

TESTING IS OUR JOB

In our textile laboratory at Greenville, S. C., nothing is taken for granted. Every suggestion for the use of our products is thoroughly tested by our technical staff. Conscientious research of this character has proven profitable to many textile manufacturers who have brought their problems to us.

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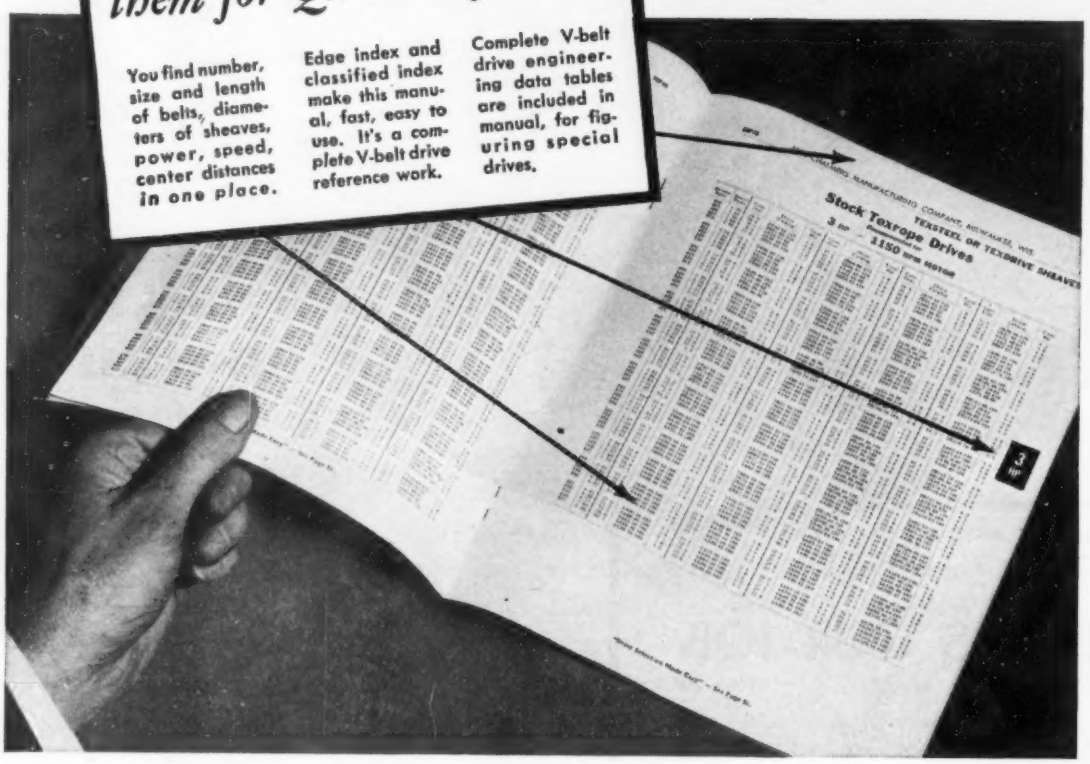
Pre-Engineered Drives

TEXROPE .. Greatest Name in V-Belt Drives


This New Manual Lists them for Quick Reference
You find number, size and length of belts, diameters of sheaves, power, speed, center distances in one place.
Edge index and classified index make this manual, fast, easy to use. It's a complete V-belt drive reference work.
Complete V-belt drive engineering data tables are included in manual, for figuring special drives.
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TEXSTEEL OR TEXDRIVE SHEAVES
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"Super 7" V-BELTS
Five Types — Sizes to suit every power transmission job.

Texsteel, Texdrive, "Magic-Grip"
— sheaves in a full range of sizes, grooves.

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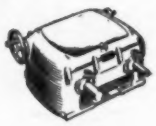
Exact variations in speed, stationery or motion control.



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Finest V-Belt engineering talent in the world—at your call.

USING STOCK BELTS AND SHEAVES, Texrope engineers have selected the *best* drive for each requirement . . . the drive most economical in first cost and in maintenance.

Only Allis-Chalmers offers you this complete Pre-Engineered drive manual. It is the product of 23 years of industrial V-belt drive experience, the finest engineering talent in the business.

Here is a book that will save you time and money in the purchase of V-belt drive equipment. Copies have been sent to many Texrope users and dealers. If you don't have a copy yet, write for Texbook No. 20P40. ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2335

TEXROPE "Super 7" V-Belts result from the cooperative research of two great companies — Allis-Chalmers and B. F. Goodrich. They are sold only by A-C.

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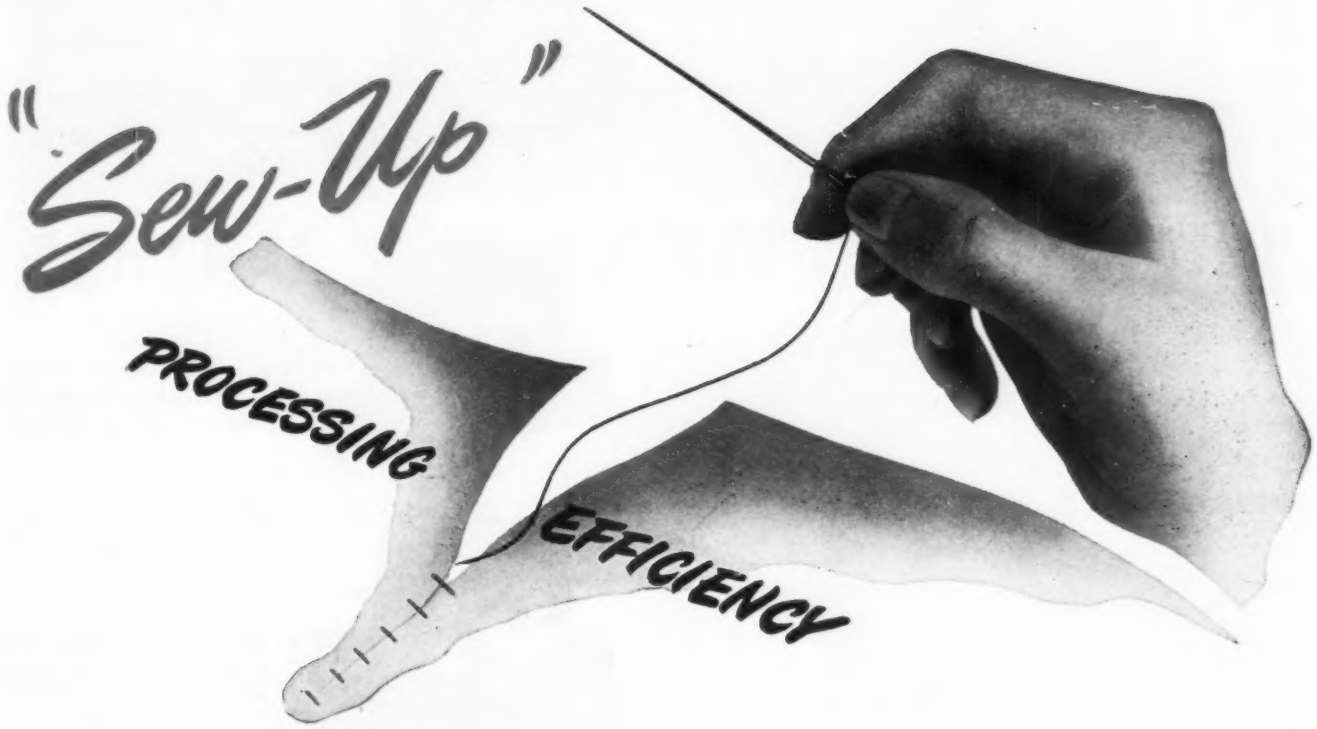
1847 1947 A CENTURY OF SERVICE to Industry THAT MADE America Great



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is becoming more generally available as Cyanamid's channels of raw material supply continue to open up.

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For low-cost chemical equivalent of distilled H_2O . . . FILT-R-STIL* Demineralizing Units.

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Industrial Chemicals Division
AMERICAN CYANAMID COMPANY
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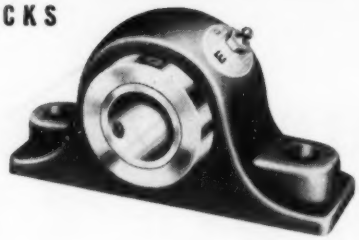
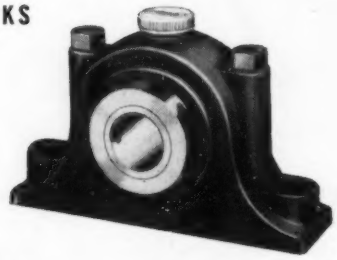
DODGE-TIMKEN TYPE "E" PILLOW BLOCKS



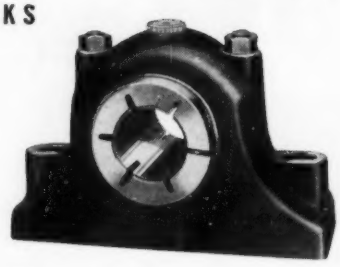
Superior performance at moderate cost. High speed capacity. Sizes 1-3/16" to 4".

DODGE-TIMKEN DOUBLE INTER-LOCK PILLOW BLOCKS



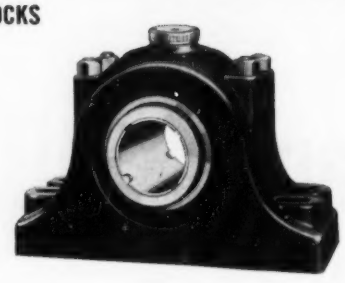
For general service. Normal radial, thrust and shock loads. 1-7/16" to 4-15/16".

DODGE-TIMKEN TYPE "C" PILLOW BLOCKS



Triple sealed against fine abrasive dust. Shaft sizes are 1-3/16" to 4-15/16".

DODGE-TIMKEN SPECIAL DUTY BALL AND SOCKET PILLOW BLOCKS



Rugged, heavy duty, high speeds. Made in shaft sizes from 1-7/16" to 8".

For Unquestioned Quality—

DODGE-TIMKEN

On anti-friction bearings, these two names are assurance of dependability and performance which enable you to cut costs and increase production. Dodge mounts, seals and houses the precision bearing assemblies and delivers them fully assembled, adjusted and lubricated—ready to lock on the shaft. Parts required for mounting these bearings are manufactured complete in the Dodge factory—from foundry through many precision operations on the latest machine tool equipment. The bearings pictured are from the famous Dodge 30,000 hour line, covering a broad range of industrial bearing requirements, promptly available from distributors' stocks.

DODGE MANUFACTURING CORPORATION • MISHAWAKA, INDIANA

CALL THE TRANSMISSIONEER

your local Dodge distributor, for news of latest developments in power transmission equipment. Look for his name in your classified telephone book under "Power Transmission Equipment."

DODGE

of Mishawaka, Ind.

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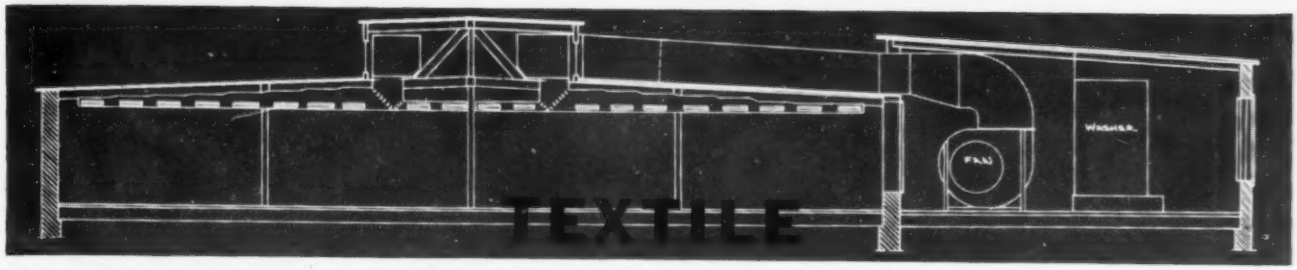
NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS



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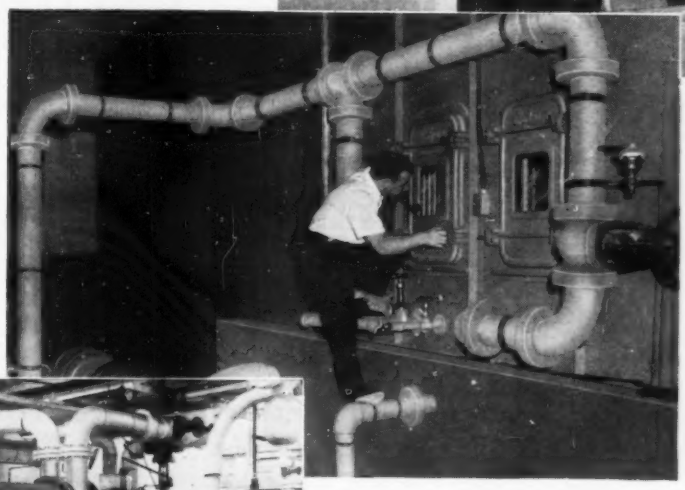
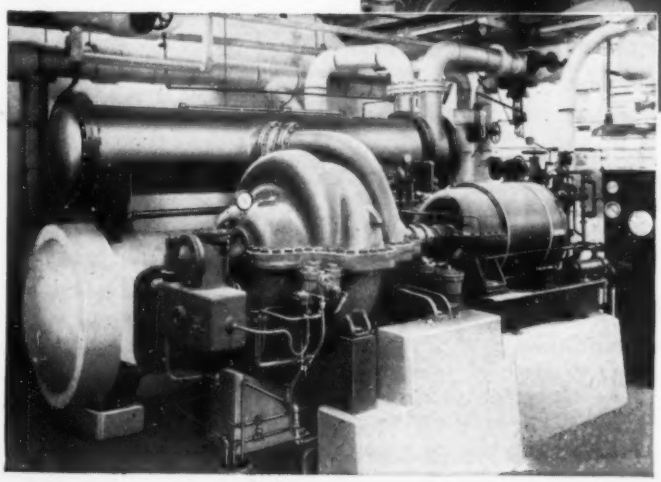
by Bahnson

Whether a large capacity installation or one of moderate size, the Bahnson Central Station System can be tailored to specifications required and designed for humidifying, heating, cooling, dehumidifying, air filtering, and ventilation—automatically controlled.



Bahnson Air Washers in central station installation handling 275,000 cubic feet of air per minute.



Worthington refrigerating compressor, combined with Bahnson Central Station Air Conditioning System, provides absolute temperature and humidity control regardless of outdoor weather conditions.

Bahnson System

POSITIVE CIRCULATION · LOWER OPERATING COST

AIR CONDITIONING ENGINEERS

THE BAHNSON CO WINSTON-SALEM, N. C.

886 Drewry St., Atlanta, Ga. 93 Worth St., New York City 703 Embree Crescent, Westfield, N. J. 553 S. Figueroa St., Los Angeles, Cal.
W. J. Westaway Co., Ltd., Hamilton, Ontario A-3 Virginian Apts., Greenville, S. C.

Presenting The All-Star

SULPHONATIONS REVUE

highlighting that great performer "MONOPOLE"

● Forty-five years experience in producing Sulphonations —that's in back of every one of these star-performers! The oldest producer in the business, Jacques Wolf & Co., takes a special pride in maintaining the strictest laboratory and production controls. That's the reason a Wolf product is always known for its uniform high quality, uniformly successful results.

As the accompanying list shows, we supply all standard sulphonated oils and tallows, and a variety of special products as well. Still heading the list is our famous Monopole Oil, known throughout the industry for its tested results in dyeing and finishing. Introduced over 45 years ago—and like every Wolf product, constantly improved — this great double-sulphonated oil is still leader in its field!

Wolf offers you Sulphonations *as you want them*—in variety, value and performance.

LOOK AT THIS CAST:

Monopole Oil	Sulphonated Esters
Monopole Oil M.D.D.	Sulphonated Neatsfoot Oil
Monopole Brilliant Oil	Sulphonated Oleic Acid
Sulphonated Amides	Sulphonated Olevene
Sulphonated Castor Oil	Sulphonated Red Oil
Sulphonated Cocoanut Oil	Sulphonated Tallow
Sulphonated Corn Oil	Emulsified Mineral Oil

Soluble Pine Oil

And combinations with all types of solvents

WOLF BRAND PRODUCTS

JACQUES WOLF & CO.

Chemicals PASSAIC, N. J.

OTHER PLANTS: CARLSTADT, N. J. • LOS ANGELES, CALIF.

WAREHOUSES: Providence, R. I., Philadelphia, Pa., Utica, N. Y., Chicago, Ill., Greenville, S. C., Chattanooga, Knoxville, Tenn.

It's the SIDES OF A V-BELT That Really GET the WEAR!

—— ONLY the SIDES Touch the pulley!

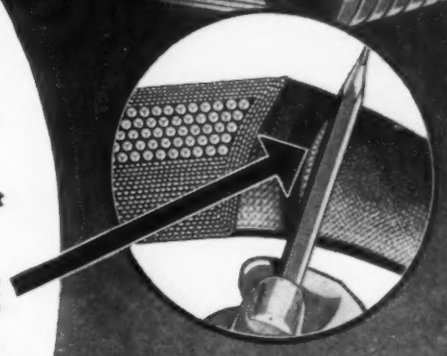
The *SIDES Do ALL the GRIPPING*

—They Pick Up ALL the LOAD!

The moment you think about it, you realize, of course, that the *sidewall* is the part of a V-Belt that really gets the wear.

It's the *sidewall* that has to grip the pulley. It has to *pick up* all the power from the driver pulley, transmit that power to the belt as a whole and then, once more, deliver the power to the driven pulley. And the sidewall takes all the wear against the sheave-groove wall.

That is the perfectly natural reason why you have always noticed that the sidewall of the *ordinary* V-Belt is the part that *wears out first!*



Now See How the Patented CONCAVE SIDE SAVES Sidewall Wear—Lengthens Belt Life.

Since the sidewall is the part that wears out first, anything that prolongs the life of the sidewall will lengthen the life of the belt.

The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the middle of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belt can possibly give.

—and the Concave Side is *MORE IMPORTANT NOW* Than Ever Before!

Now that Gates *SPECIALIZED* Research has resulted in Super Vulco Ropes capable of carrying much heavier loads —up to 40% *higher horsepower ratings* in some cases— the sidewall of the belt is called upon to do even more work in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important NOW than ever before!

The CONCAVE SIDE is a GATES PATENT

Straight Sided V-Belt

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Gates V-Belt with Patented Concave Sidewall

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley.

No bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall —and that means much longer life for the belt.

4712

THE GATES RUBBER COMPANY DENVER, U. S. A., *"World's Largest Makers of V-Belts"*

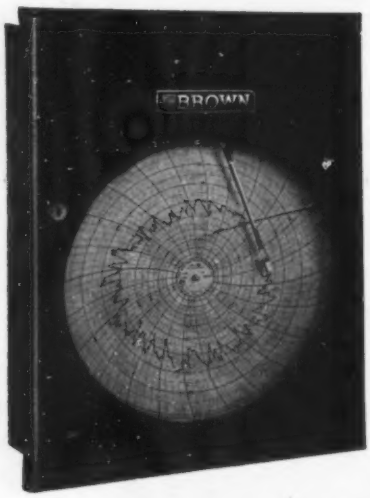
GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

Gates

THE MARK OF SPECIALIZED RESEARCH

Complete Cost Accounting Must Include Steam



Brown Electric Recording and Integrating Flow Meter

If steam were a raw material, every textile mill would make precise accounting of its consumption.

Steam is costly. It is often wasted. Departments draw far more steam than needed for efficient operations because it is "free".

Many textile mills have installed the Brown Steam Accounting System and realized substantial savings. Steam wastes are detected. Consumption is lowered and savings quickly repay the small investment.

Hub of the Steam Accounting System is the Brown Recording and Integrating Flow Meter. The exclusive features of this instrument tell you where steam goes, when it goes, and how much goes. It is then easy to figure costs for any department or process.

With rising fuel costs, now is the time to save steam. Write for information about the Brown Steam Accounting System.

THE BROWN INSTRUMENT COMPANY, 4492 WAYNE AVE., PHILADELPHIA 44, PA.
DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
SUBSIDIARY COMPANIES IN TORONTO • MEXICO CITY • LONDON • STOCKHOLM • AMSTERDAM • BRUSSELS • ZURICH

BROWN INSTRUMENTS

AND MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS

For Temperatures . . . . . Pressures . . . . . Flows . . . . . Liquid Levels

No Substitute for Quality

There is no substitute for Quality—therefore no substitute for Bunting Bronze.

When you need Bearing Bronze, Quality Bearing Bronze, call the leading Distributor in your community—because—the leading Distributor in your community is, almost certainly, the Bunting Distributor. The Bunting Brass & Bronze Company, Toledo 9, Ohio.

Branches in Principal Cities.

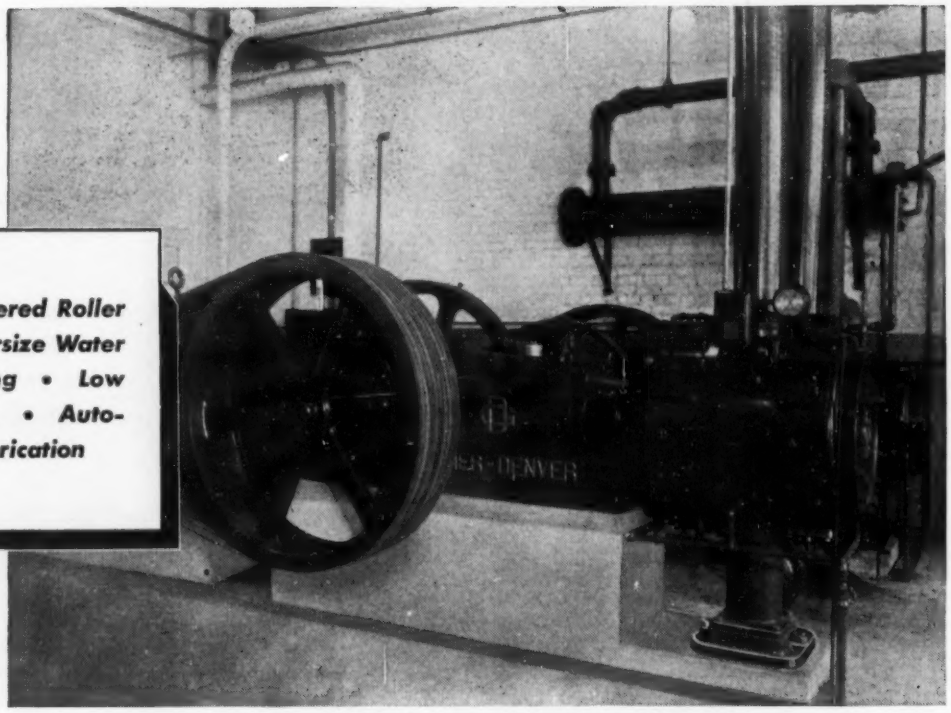
Bunting

BRONZE BEARINGS

PRECISION BRONZE BARS

BUSHINGS

Double Row Timken Tapered Roller Main Bearings • Oversize Water Jackets for Efficient Cooling • Low Lift, Air Cushioned Valves • Automatic and Reliable Lubrication



Gardner-Denver RX, single-cylinder horizontal, double-acting, single-stage compressor—available in capacities from 89 to 1292 cubic feet displacement per minute.

No wonder it will run Continuously

Every part of a Gardner-Denver "RX" Air Compressor is built for heavy-duty, full-load, continuous service. And with such service goes high volumetric and mechanical efficiency—unusually low power costs! Here are additional features which make the RX a favorite in so many industries:

★ *Duo-plate cushioned valves—simple, durable, unusually quiet.*

★ *Large and unrestricted port areas help reduce heat of compression; insure effective lubrication with minimum oil consumption.*

★ *Suction valve unloaders on all inlet valves result in lowest power consumption during unloaded period.*

★ *Oil-tight, dust-tight construction.*

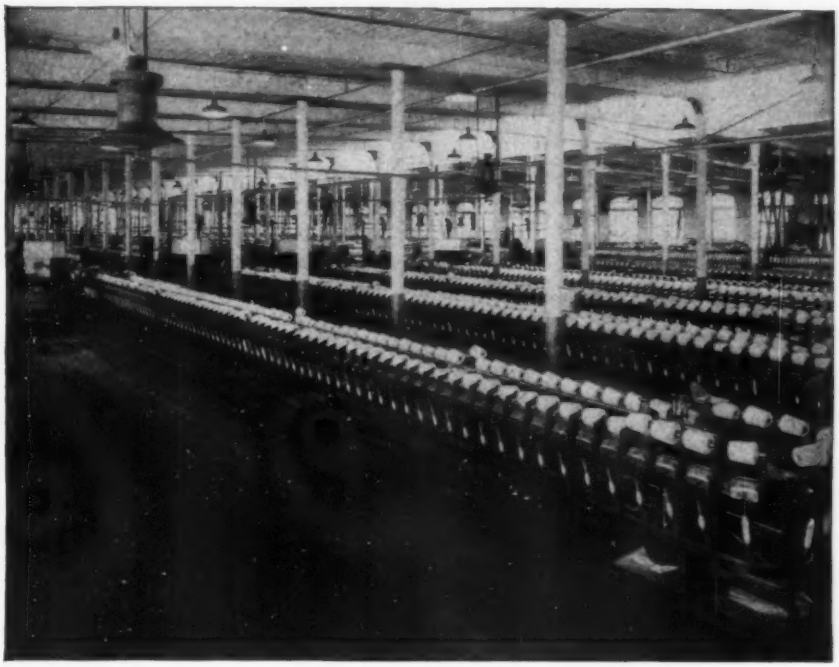
For complete information about Gardner-Denver RX Compressors, write Gardner-Denver Company, Quincy, Illinois

USE COMPRESSED AIR FOR SAFETY CONVENIENCE FLEXIBILITY

GARDNER-DENVER
SINCE 1859

Atlanta, Ga. Birmingham, Ala. Boston, Mass.
Hazleton, Pa. Knoxville, Tenn. Washington, D. C.
New York, N. Y. Philadelphia, Pa. Pittsburgh, Pa.

ABBOTT AUTOMATIC WINDERS



The operations required to run a cone winder are:

1. **Pick up bobbin**
2. **Find end**
3. **Put bobbin in position**

---

4. **Find end on cone**
5. **Tie ends**
6. **Start winding head**
7. **Hold thread out of traverse until cone is up to speed.**

The Abbott Automatic Winder requires only the first three operations to be done. The last four operations are wholly automatic.

Also, instead of a constant parade around the machine, the operator stays in one position sitting or standing.

Also, the full and empty bobbins and cones are within easy reach in large supply.

The result is a production three times that of the conventional stationary spindle non-automatic winder.

Average hourly production per operator 900 to 1000 bobbins per hour

2 oz. bobbin..... 112 lbs. hour
4 oz. bobbin..... 224 lbs. hour
6 oz. bobbin..... 338 lbs. hour
8 oz. bobbin..... 448 lbs. hour

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Office ***Greenville, S. C.***

Keep Textiles on the Upswing with Hooker Chemicals

"Textiles on the Upswing headlines an article in a recent issue of BUSINESS WEEK—and the reason for this upswing—"Most buyers, finding that the new cloth was of good quality, ordered more."

Smart textile buyers buy quality. And that goes for buyers of chemicals, too. Dye and textile chemists who want to keep textiles on the upswing by maintaining their high quality standards will find dependable allies in Hooker chemicals. Some of the Hooker chemicals used in the dye and textile industries are listed below. Technical Data sheets will be sent when requested on your company letterhead.

PRODUCT	FORMULA	DESCRIPTION	SUGGESTED USES
Benzoic Acid	C_6H_5COOH	White Crystalline Solid.	Mordant, preservative in preparation of textile sizing, manufacture of dyes.
Caustic Soda	Na OH	Liquid, Flake, Solid.	Manufacture of viscose rayon, mercerizing cotton, bleaching, dyeing and printing textiles, organic intermediates.
Chlorine, Liquid	Cl_2	Orange Liquid	Preparation of bleach liquors, water purification.
CP-40 Chlorinated Paraffin	$C_{26}H_{46.5}Cl_{7.5}$ (average)	Light viscous liquid averaging 42.5% Chlorine	In compositions for waterproofing and fireproofing fabrics.
CP-70 Chlorinated Paraffin	$C_{24}H_{29}Cl_{21}$ (average)	White Powder averaging 70% Chlorine.	In compositions for waterproofing and fireproofing fabrics.
Lauryl Pyridinium Chloride	C_5H_5N-$ClC_{12.6}H_{26.2}$	Tan colored semisolid.	Cationic detergent in rayon industry.
Muriatic Acid	HCl in water solution	Commercial grade: light yellow liquid. White grade: colorless liquid.	Textile dyeing and finishing, manufacture of dyestuffs.
Paradichlorbenzene	$C_6H_4Cl_2$	White to clear transparent crystals.	Mothicide; manufacture of dye intermediates and other synthetic chemicals.
Sodium Sulfhydrate	Na SH	Light yellow colored solid in flake form.	Desulfurizing rayon; calico printing; in sulfur dye baths.
Sodium Sulfide	Na_2S	Light salmon colored solid in flake form.	Desulfurizing rayon; calico printing; sulfur dye baths, manufacture of dyestuffs.

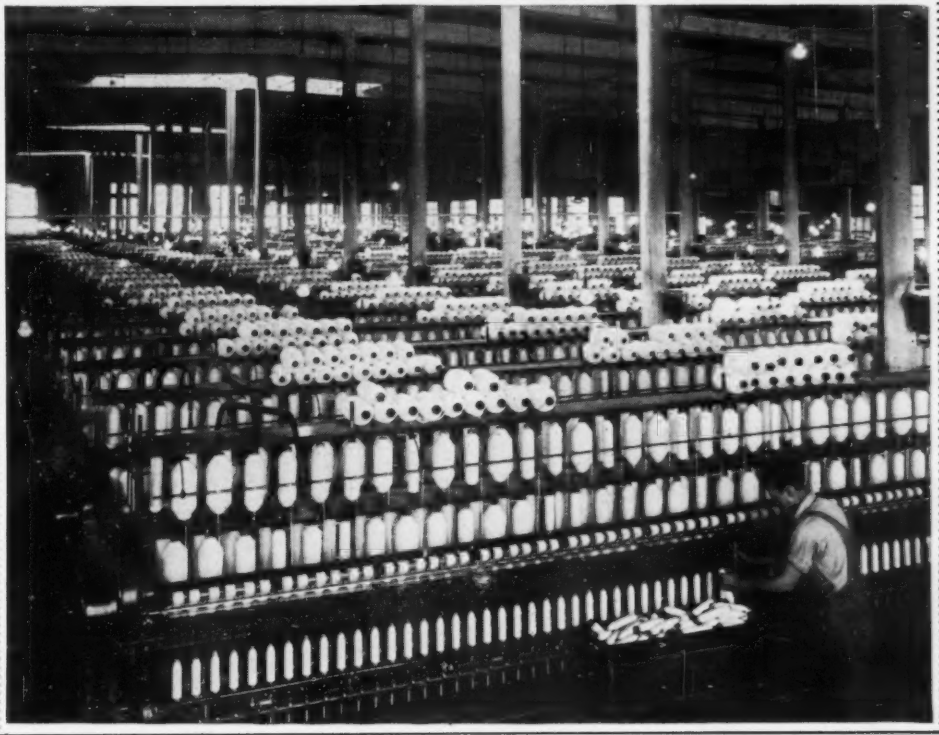
HOOKER ELECTROCHEMICAL COMPANY

14 Forty-Seventh St., Niagara Falls, N. Y.
New York, N. Y. Wilmington, Calif. Tacoma, Wash.

7-574

HOOKER CHEMICALS

Caustic Soda **Chlorine** **Muriatic Acid** **Sodium Sulfide** **Sodium Sulfhydrate**



production goes up when humidity stays put

Yarns run smoother when relative humidity in the textile mill is held constantly at the proper level. There is less static to make them "wild," less chafing, and fewer ends down. That adds up to uninterrupted operation, increased production.

Close control of humidity is no problem at all with a Carrier Central Station Air Conditioning System. This scientific, year-round installation maintains any desired relative humidity *automatically*. It reduces temperature in summer, keeps it uniform in winter.

Mill operators especially like the low cost at which a central system can be maintained. Since the equipment is outside the mill proper, maintenance need not interfere with mill activities.

Carrier's name on air conditioning is a pledge of efficiency and dependability. In designing air conditioning, Carrier engineers draw on years of experience with textile mill problems. Their installations have stepped up output and improved quality for mills in many parts of the world. They're always glad to discuss your production difficulties. Carrier Corporation, Syracuse, New York.

Carrier

air conditioning

refrigeration

industrial heating

"NEW CARD CLOTHING Will *pep up* Our Whole Mill!"

A good superintendent knows that high grade carding means increased operating efficiency in every other department . . . he realizes the importance of getting production off to the right start.

With new Tuffer card clothing on your cards you will increase production and obtain the quality so necessary for strong, even yarns. You know this means increased output in the card room, spinning room and in the weave room.

Let a Howard Bros. representative inspect your card clothing. He is qualified to make recommendations that will improve production throughout your mill!

HOWARD BROS. MFG. CO.
WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas
Direct Representation in Canada

A-2

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**

SANDOZ PRESENTS *the color achievement of the month*

Tiger Lilies BY TEXTRON

Huge tiger lilies splashed against rayon taffeta, Textron-treated for water repellence and mildew resistance, give a woodsy atmosphere to shower-bathing — a typically dramatic achievement of Textron, Inc.

Helping to give free expression to one of the textile industry's boldest imaginations, Sandoz furnishes Textron with dyestuffs that handle well and easily and hold their character in service.

Among the Sandoz products is also included the CEROL range of waterproofing emulsions. These CEROL products have proved reliable for more than twelve years in the finishing of all types of fabrics — to produce straight waterproof finishes or to combine waterproofing with mildewproofing.

There are specific types for acetate and viscose rayon, cotton and wool. In addition to their high degree of repellency, their high stability enables the finisher to combine them with other finishing ingredients.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements. Sandoz application laboratories are located in New York, Boston, Los Angeles, Philadelphia, Charlotte, Toronto, where stocks in wide range are carried. Other branches are in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

SANDOZ *thinks ahead with textiles*

"ROLL"-CALL

*shows top worsted mills winding with Roto-Coners**

Introduction of the all-metal (wear-resisting) rotary traverse allows mills winding the more abrasive yarns to increase winding room production with Roto-Coners*.

Today, an impressive list of mills testifies to the success of the Roto-Coner* in winding wool and worsted yarns.

The Rotary Traverse is a one-piece combination driving drum and traverse guide — precision grooved, dynamically balanced. By eliminating cams, it permits higher winding speeds (550 ypm for paper coning) and saves replacing fast-wearing parts. It needs no greasing, no adjustments, eliminates vibration.

And packages wound on the Roto-Coner* are free from imperfections and inequalities caused by slip drums, too small an angle of wind, and wear on reciprocating parts.

Read Bulletin 144 for more facts about America's fastest-selling winding machine.

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

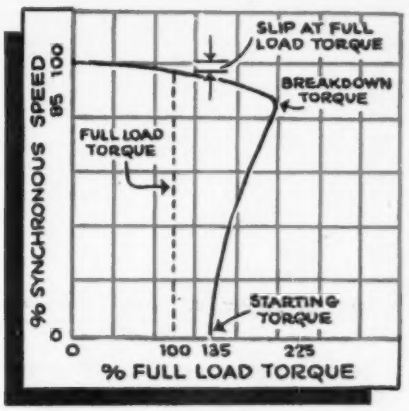
Agents in every principal textile center in the world.

23-7-11

LEESONA
REG. U.S. PAT. OFF.
ROTO-CONER*
Open-Wind Cones for Knitting
WARPING CONES — DYEING PACKAGES — PARALLEL TUBES FOR TWISTING

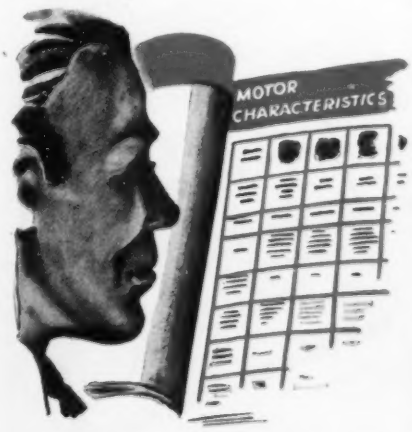
Here's One Way to Choose Motors...

Sure, Your Local "Swami" can pick a motor for you in an instant! But if you want motor counsel you can *bank* on . . . you'll consult a reputable motor manufacturer. In place of crystal-ball gazing, he'll advise you to follow *practical* and *orderly* steps in arriving at *right* motor selection. For example . . .



First, Study Your Power Supply . . . voltage, frequency, number of phases; the p.f. required by your utility. Judicious selection will help balance your motor capacity . . . lower power costs. And check the voltage regulation — choose motors with enough torque to start and carry the load. Next . . .

Study the Driven Machine and surroundings. What hp? What starting torque? Will you need a horizontal or vertical motor — direct-connected, belt-driven or gear-operated? How about surroundings — ambient temperature, moisture, corrosion, dust. Each calls for a particular type of protection. Now . . .



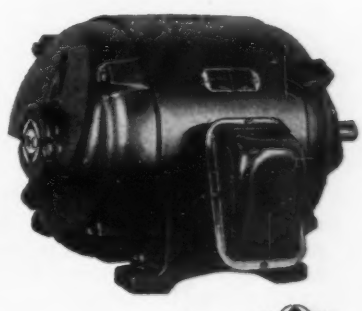
Study Your Motor Characteristics. *A-c motors?* For most jobs they're satisfactory and economical. *D-c motors?* For wide speed range; for fast acceleration or reversal they may prove your best bet. *Synchronous motors?* When applicable they give you low-cost p.f. correction. You're *still* undecided? Call in your nearby Allis-Chalmers motor expert. He'll be glad to help you decide—with recommendations backed by 50 years of motor-building!

Wise Motor Choice Saves Power; Ups Profit!

YES, CRYSTAL-BALL GAZING methods are out when you're trying to get *maximum* return on your electric motor investment. Slip-shod selection usually results in over-capacity, high power and maintenance bills — the kind of costs that in the competitive era of tomorrow you won't be able to afford!

That's why it pays to know more about *all* types of motors . . . their operation . . . limitations . . . maintenance. And there, too, is where your Allis-Chalmers motor expert can be of real help! ALLIS-CHALMERS, MILWAUKEE.

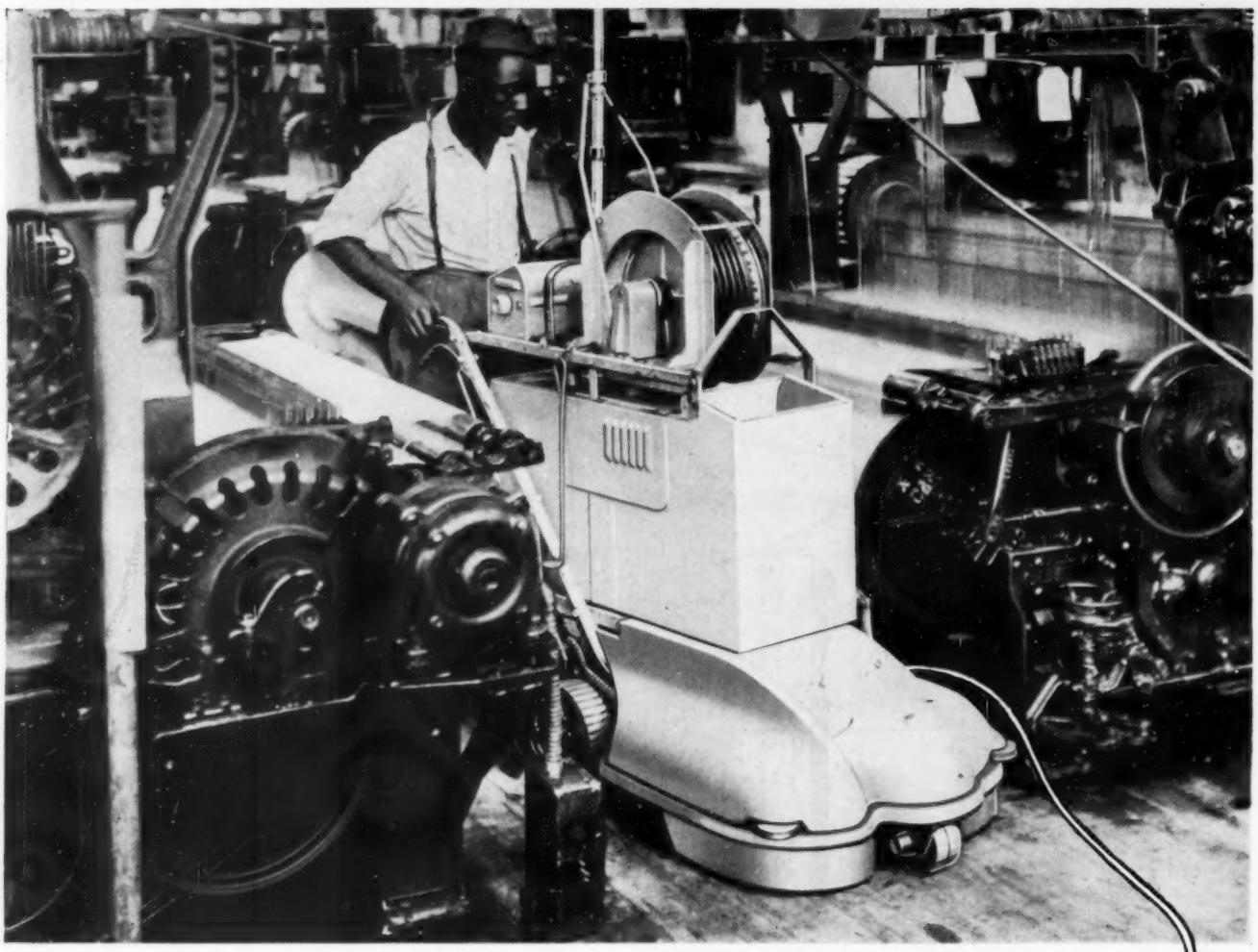
A 2328



1847 1947 A CENTURY OF SERVICE to Industry THAT MADE America Great

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment-
Biggest of All in Range of Industrial Products



To Solve YOUR Floor-Cleaning Problem

CHOOSE *A Job-Fitted Finnell!*

Since individual floor-cleaning problems differ widely, no one machine can serve the needs of all industries effectually and economically. The area and arrangement of the floors, whether congested or open, type of flooring and production — these determine the equipment. Recognizing that fact, and guided by four decades of practical experience in developing and manufacturing floor-maintenance machines, *Finnell* offers *more than a score* of models and sizes. From this complete line, it is possible to choose *job-fitted* equipment—equipment that fits the need in size as well as model. A *Job-Fitted Finnell* provides the greatest brush coverage consistent with area and arrangement of the floors and other conditions—whether the job calls for wet scrubbing, dry scrubbing, or dry cleaning . . . or for waxing or polishing.

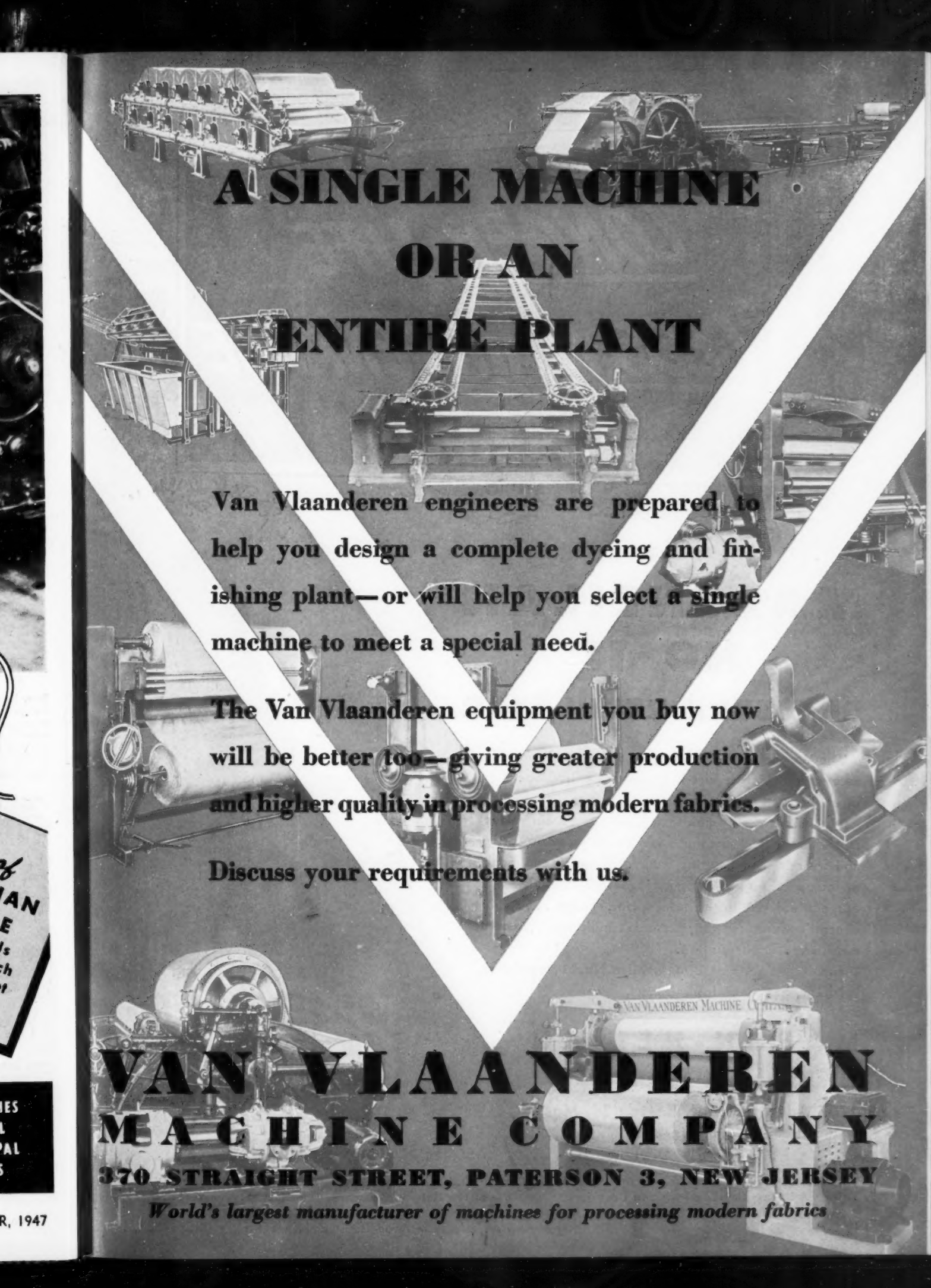
The *Finnell* illustrated, a *Self-Propelled Scrubber-Vacuum*, is a complete cleaning unit *all in one*. It applies the cleaning solution (or scouring powder), scrubs, rinses if required, and picks up. Has a cleaning capacity up to 8,750 sq. ft. per hour! For consultation, free floor survey, or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 1312 East Street, Elkhart, Indiana. Canadian Office: Ottawa, Ontario.

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES


A SINGLE MACHINE
OR AN
ENTIRE PLANT
Van Vlaanderen engineers are prepared to help you design a complete dyeing and finishing plant—or will help you select a single machine to meet a special need.
The Van Vlaanderen equipment you buy now will be better too—giving greater production and higher quality in processing modern fabrics.
Discuss your requirements with us.
VAN VLAANDEREN
MACHINE COMPANY
370 STRAIGHT STREET, PATERSON 3, NEW JERSEY
World's largest manufacturer of machines for processing modern fabrics

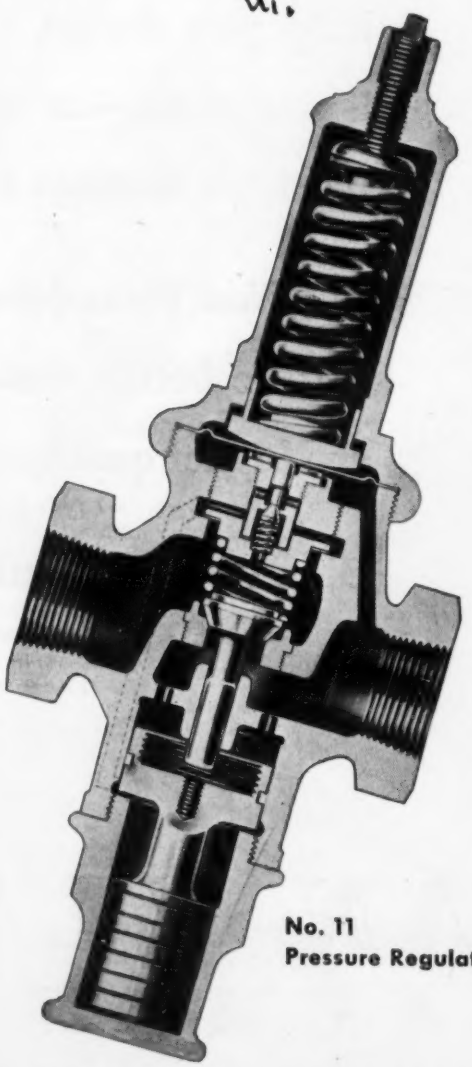
MASONEILAN NO 11

PRESSURE REGULATOR

The Masoneilan No. 11 Pressure Regulator is providing accurate reducing service in countless applications throughout all types of industry.

The heat-treated stainless steel pilot and main valves and stainless steel seat minimize corrosion, steam-cutting and wire drawing assuring accuracy, long-life and reduced maintenance. Important operating features include—wide range of adjustability without spring change . . . stable control under fluctuating pressure conditions . . . extreme sensitivity . . . tight shut-off.

Investigate and install Masoneilan No. 11 Regulators. Available in bronze, iron, or steel.



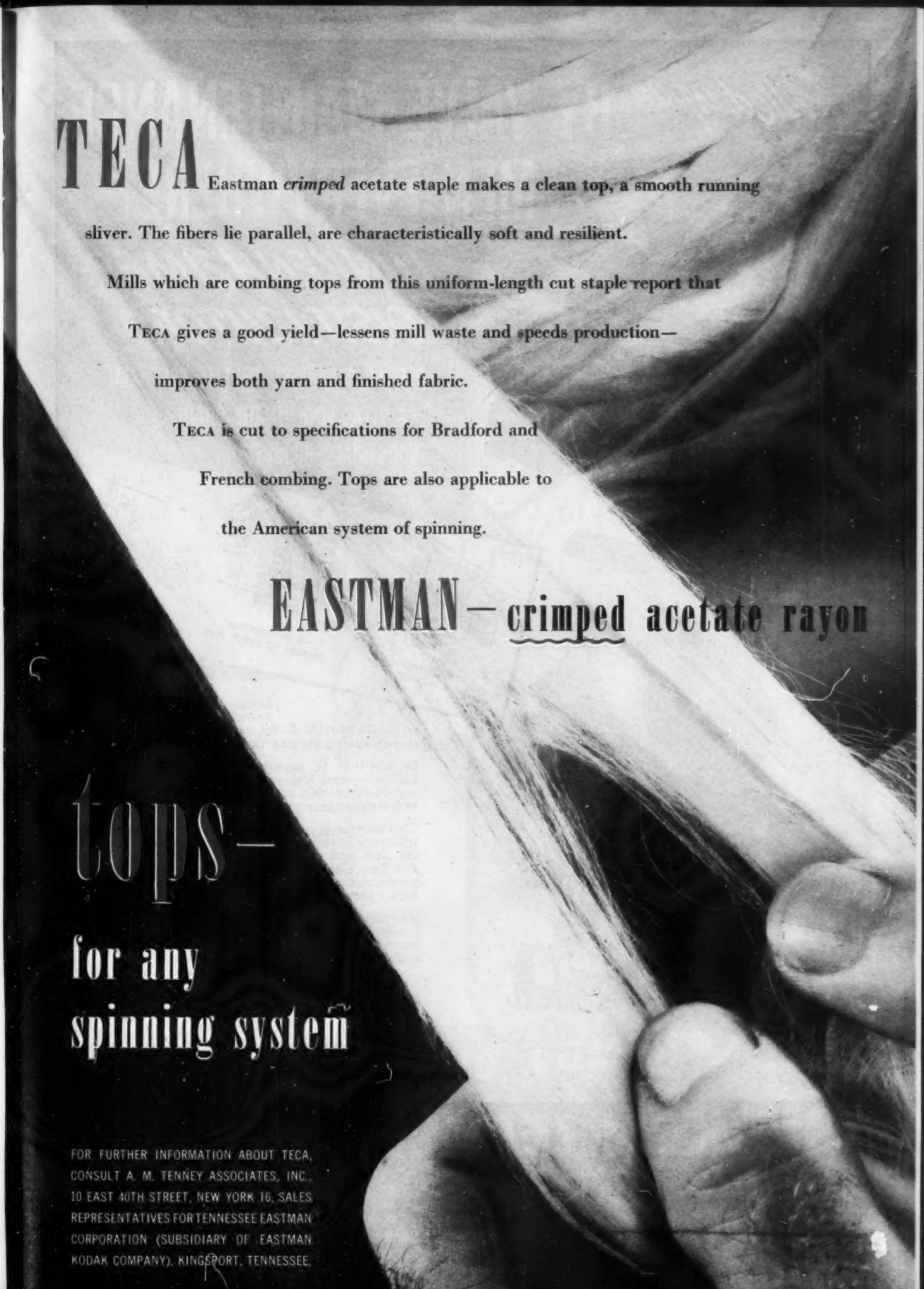
No. 11
Pressure Regulator

MASON-NEILAN REGULATOR CO.

1207 Adams Street, Boston 24, Mass.

MASONEILAN

New York · Buffalo · Chicago · St. Louis · Philadelphia · Houston · Pittsburgh · Cleveland
Tulsa · Atlanta · Los Angeles · San Francisco · Mason Regulator Company of Canada Ltd., Montreal and Toronto


TECA Eastman *crimped* acetate staple makes a clean top, a smooth running sliver. The fibers lie parallel, are characteristically soft and resilient.
Mills which are combing tops from this uniform-length cut staple report that TECA gives a good yield—lessens mill waste and speeds production—improves both yarn and finished fabric.
TECA is cut to specifications for Bradford and French combing. Tops are also applicable to the American system of spinning.
EASTMAN—crimped acetate rayon
tops—
for any spinning system
FOR FURTHER INFORMATION ABOUT TECA, CONSULT A. M. TENNEY ASSOCIATES, INC., 10 EAST 40TH STREET, NEW YORK 16, SALES REPRESENTATIVES FOR TENNESSEE EASTMAN CORPORATION (SUBSIDIARY OF EASTMAN KODAK COMPANY), KINGSPORT, TENNESSEE.

Relied upon BY VALVE MAINTENANCE MEN EVERYWHERE . . .

LUNKENHEIMER DISTRIBUTORS

RENDER A SERVICE THAT IS ESSENTIAL — A VITAL LINK IN THE CHAIN OF INDUSTRIAL PRODUCTION

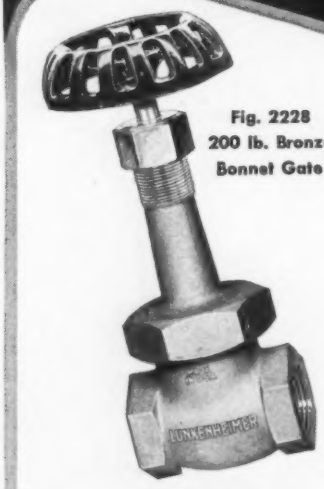


Fig. 2228
200 lb. Bronze
Bonnet Gate

Fig. 123
"N-M-D"
Globe
(Non-
Metallic
Disc)

Fig. 1430
Iron Body Gate

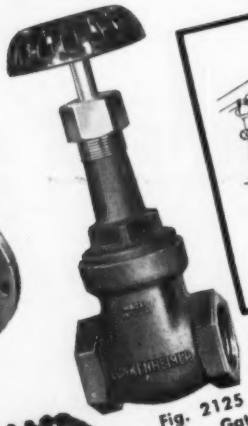
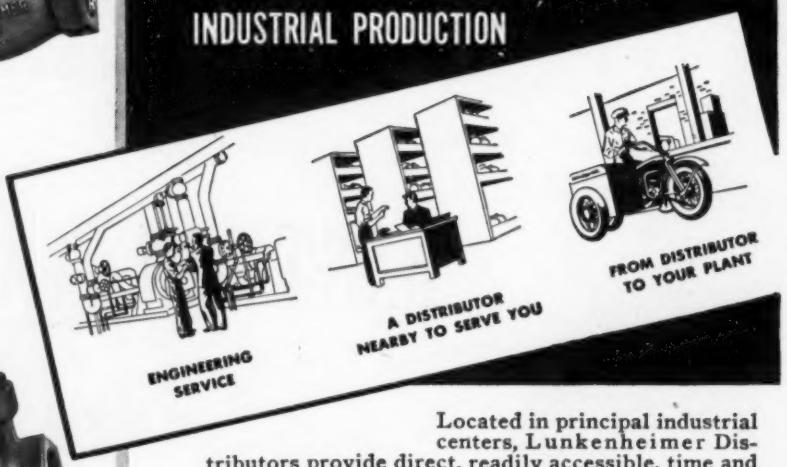


Fig. 2125
Bronze Gate

Fig. 1640
"King Clip" Gate

Fig. 16
"Renewo"
Globe



Located in principal industrial centers, Lunkenheimer Distributors provide direct, readily accessible, time and money-saving service throughout the nation.

In addition to supplying high quality, long life Lunkenheimer Valves, they render valuable aid to maintenance men in the solution of both operating and maintenance problems.

This service is nothing new . . . Lunkenheimer Distributors have been providing it for many years in the past, and will continue doing so in the future. For this established Distributor set-up is a basic, permanent part of the Lunkenheimer way — the *better service* way.

Remember—you can *always* depend on your nearby Lunkenheimer Distributor for expert, willing assistance in any problem or difficulty involving valve maintenance or operation. Call on him!

ESTABLISHED 1862

THE LUNKENHEIMER CO.

"QUALITY"

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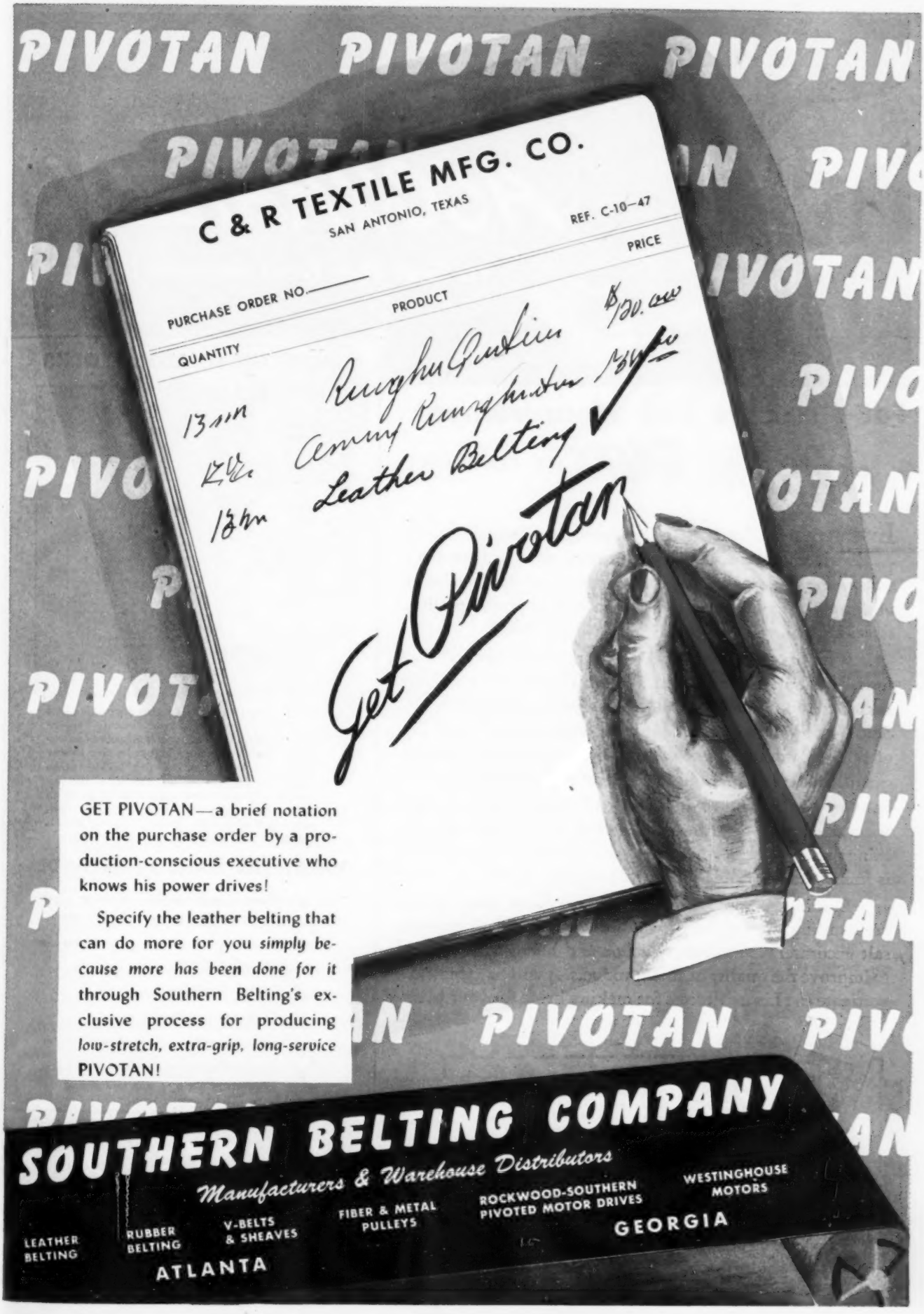
NEW YORK 13 CHICAGO 6
BOSTON 10 PHILADELPHIA 34

EXPORT DEPT. 318-322 HUDSON ST., NEW YORK 13, N. Y.

LUNKENHEIMER VALVES

BRONZE, IRON, STEEL AND CORROSION RESISTANT ALLOY VALVES, 125 TO 2500 LB. S. P.;
BOILER MOUNTINGS, LUBRICATING DEVICES, AIRCRAFT FITTINGS


PIVOTAN
C & R TEXTILE MFG. CO.
SAN ANTONIO, TEXAS
REF. C-10-47
PURCHASE ORDER NO.
PRODUCT
PRICE
QUANTITY
Get Pivotan
GET PIVOTAN—a brief notation on the purchase order by a production-conscious executive who knows his power drives!
Specify the leather belting that can do more for you simply because more has been done for it through Southern Belting's exclusive process for producing low-stretch, extra-grip, long-service PIVOTAN!
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RUBBER BELTING
V-BELTS & SHEAVES
FIBER & METAL PULLEYS
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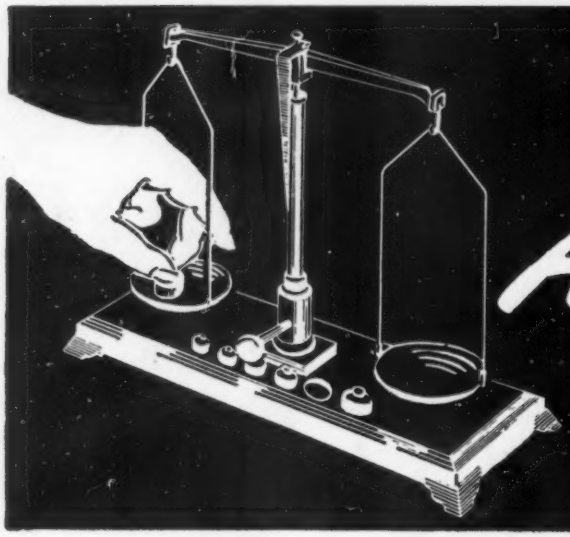
WESTINGHOUSE MOTORS
ATLANTA
GEORGIA



You've Got to Measure

ACCURATELY

to Get the Best Results!

For Accurate Salt Measurement

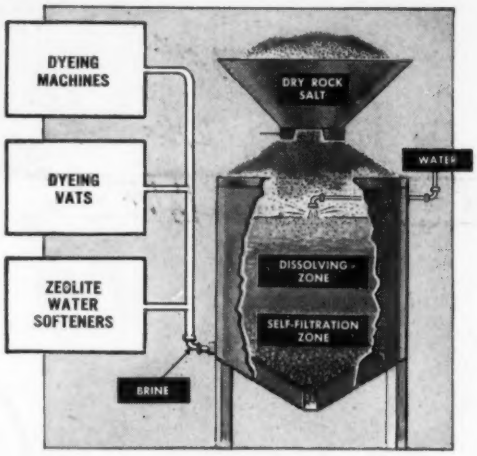
"PASS the SALT" BY LIXATOR

EVERY DYER knows that salt is a top-flight exhausting agent ... that it must be accurately measured to insure complete exhausting without waste ... and further that it must also be uniformly distributed in the dye bath to prevent spotting, streaking and white edges. The question is *how*.

With Lixate brine accurate salt measurement and uniform distribution are assured. For the Lixator automatically and continuously makes 100% saturated, crystal clear brine. Since each gallon of Lixate brine *always* contains 2.65 lbs. of salt—a definite volume of Lixate brine supplies a definite quantity of salt. The trouble and waste of measuring salt by hand or by mechanical devices, or of measuring by weight without regard to water absorption during storage, are things of the past. And added to the dye bath, salt, as brine, is immediately diluted and dispersed throughout.

Leading companies in your industry and many others are availing themselves of the Lixator's ability to measure salt accurately ... to reduce labor and handling costs and to improve the quality of their products. It will pay you to investigate the Lixate Process for making brine for your plant.

HOW THE LIXATOR WORKS



In the upper zone—Flowing through a bed of rock salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the lower zone**—Through use of the self-filtration principle *originated by International*, the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

WHAT THE LIXATOR PROVIDES

- ✓ **Chemical and bacterial purity to meet the most exacting standards for brine**
- ✓ **Unvarying salt content of 2.65 pounds per gallon of brine**
- ✓ **Crystal-clear brine**
- ✓ **Continuous supply of brine**
- ✓ **Automatic salt and water feed to Lixator**
- ✓ **Inexpensive, rapid distribution of brine to points of use by pump and piping**

Get the full story on why accurate salt measurement is *always* possible with Lixate brine. Send for your copy of our *free* pamphlet *today!*

INTERNATIONAL SALT COMPANY, INC., Dept. TI-12, Scranton, Pa.

Gentlemen:
Please mail absolutely free your pamphlet, "How Lixate Brine Solves the Problem of Accurate Salt Measurement."

Name _____

Firm _____

Street _____

City _____ *State* _____

The LIXATE Process

Reg. U. S. Pat. Off.

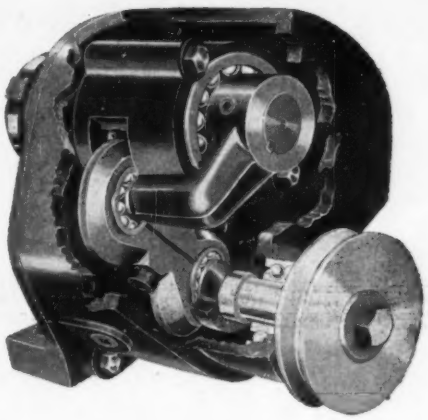
for making brine

INTERNATIONAL SALT COMPANY, INC.

Scranton, Pa.

WHY BUY FRICTION?

REPLACE OLD STYLE WORN OUT COMB BOXES WITH



This graphic illustration reveals the efficient design of this Comb Box. Notice that there are no frictional parts . . . that it is sealed to eliminate costly oil leakage. Comb-stock replacement or adjustment is easily accomplished from the exterior of the box.

TYPE C
BALL BEARING COMB BOX

WHY BUY *FRICTION* . . . When it can be virtually eliminated with the installation of this modern Ball Bearing Unit. Constructed throughout with a double row of heavy duty ball bearings, there are no slapping parts to create excess friction, heat, wear—and replacement costs. The result is a noiseless, frictionless, smooth operation, that means savings to you in both time and money.

The Southern States Equipment Corporation Type C, Ball Bearing Comb Box, with adapter base, fits either right or left, on *any* current make of cotton card!

Factory lubricated, and equipped with Victorprene Oil Seals, this outstanding product eliminates frequent and unnecessary oil changes and "down-time." Unlike the old-style box, the Southern States Type C Ball Bearing Comb Box has no working parts to wear out. For little more than the cost of replacing an eccentric and bearing in the present box, a standard set of replacement ball bearings can be inserted—providing an entirely new box!

Send us your order, TODAY, or write for Bulletin TI 100.

Southern States Equipment Corp.
HOME OFFICE AND FACTORY
HAMPTON, GEORGIA

HENDERSON FOUNDRY & MACHINE COMPANY DIVISION
Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

Houghton Presents

9 STEPS THAT LEAD TO STEPPED-UP WARP SIZE EFFICIENCY

A PICTURE STORY OF THE SIMPLE, LOGICAL SEQUENCE OF THE HOUGHTON WARP SIZE CHECK-UP TEST

1 The test's first step is made during regular mill operation. Moisture conditions, checked at the slasher by the Moist-o-graph (shown above), are controlled to increase sizing efficiency.

2 Many sizing formulae may be used in the test. Unsized and variously sized warp samples are removed from the slasher by our Size Specialist, without interfering with mill production.

3 The samples, packed in air-tight jars, are sent to Houghton's completely equipped textile laboratory in Philadelphia, along with all pertinent data from the mill.

4 Moisture content is determined as the sample is received so mill conditions may be checked. Warp is then dried, weighed, and subjected to chemical and physical analysis.

5 All sizing, natural waxes and gums originally in the cotton are boiled off. Dried and reweighed, the boil-off and amount of size added are determined.

6 This Scott Inclined Plane Tester finds and records single-end elongation and breaking strength. An average of 15 tests is used in making this determination.

7 Microphotographs, 8 to 16 times the original size, present visual evidence of how sizing affects yarn. Threads are stretched on a special frame for photographing.

8 The final report compares various sizing formulae and their influence on weavability. Warp strength, elongation, amount of size added and moisture conditions are set forth.

9 This is a 16-times enlargement of warp threads, taken from a typical report. These microphotographs clearly show how proper sizing improves fiber lay and smoothness.

The Houghton Warp Size Check-Up Test is completely confidential and available only to the mill requesting it. The test consists of a study of actual mill conditions, a sizing demonstration using the mill's regular equipment and comparative analysis of various warp size formulae. May we talk it over with you?

HOUGHTO-SIZE CW

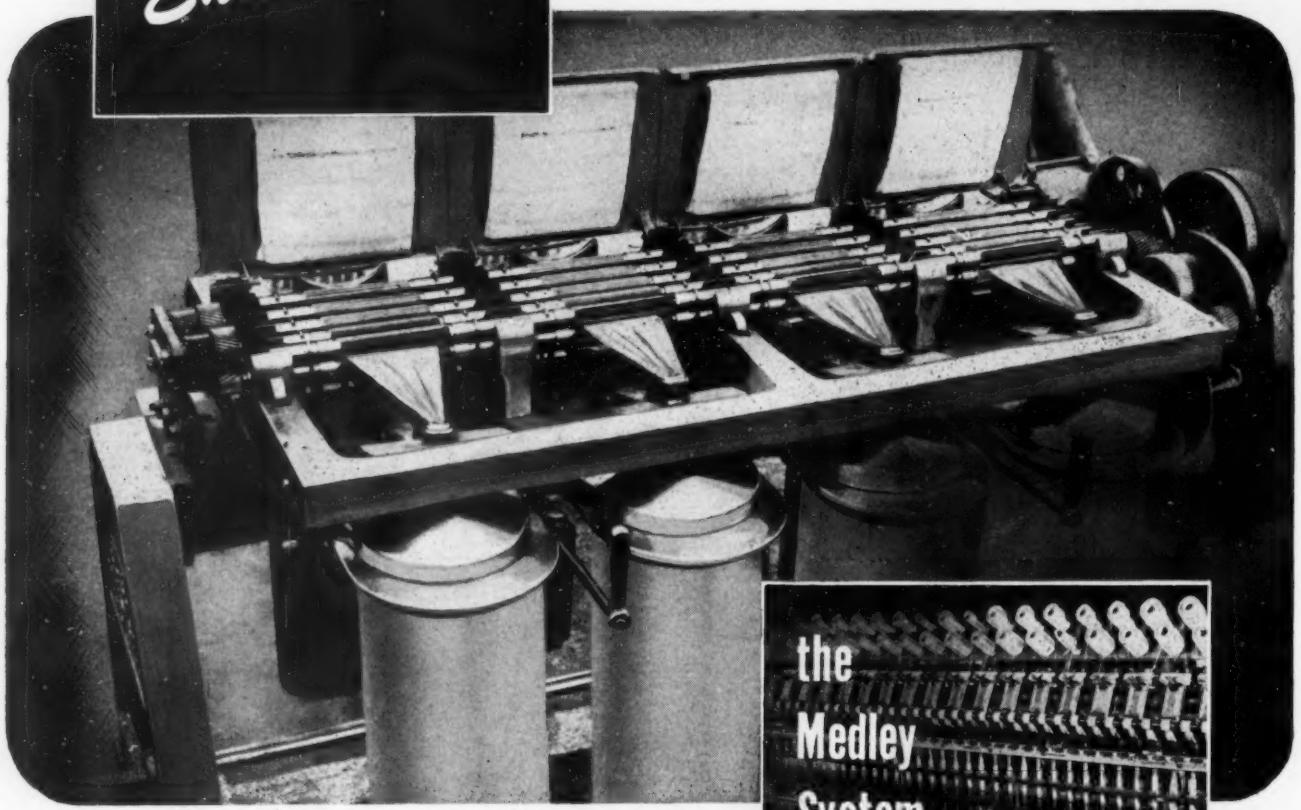
Regardless of conditions and equipment, efficient sizing can not be obtained without a reliable, concentrated size softener. HOUGHTO-SIZE CW, a one piece sizing agent combining softener, binder and plasticizer, has proven its merits in production as an economical compound offering improved weaving results at low kettle cost.

E. F. HOUGHTON & CO.

303 W. LEHIGH AVE., PHILADELPHIA 33, PA.
1301-05 W. MOREHEAD ST., CHARLOTTE 1, N. C.

Get fewer Ends down!

With a Cleaner, More Uniform Sliver on MEDLEY DRAWING



Medley can prove this claim: Whatever the fiber, or blend of fibers, in any staple length from 5/8 inch to 13 inches, the Medley Drawing Frame definitely can help you increase drawing efficiency and lower operating costs. How? *By delivering a cleaner, more uniform sliver.*

The Medley Drawing Frame is precision built. It features 1) Sealed ball-bearing top rolls from fine-grained, wear-resisting steel, machined to near zero variation, 2) Hobbed helical steel and cast iron gears, 3) Generated bevel gears, 4) Studs, journals and necks made of stress-proof steel hardened and ground to close tolerances.

Your conventional drawing frames can be changed over to this improved Medley drawing. Write today for details.

The DIRECT SPINNER

in the Medley plant is daily proving the feasibility of this spinning method by processing finished yarn, in one operation, from continuous filament rayon tow.

This is only one of many improvements which Medley has brought to the Textile Industry. Other experiments are continually under way, designed to cut down waste, save labor and step up efficiency.

Call or write Medley when you need the services of trained textile or mechanical engineers.

Medley has it—or Medley will make it!

The MEDLEY System, Inc.

400 32nd ST., COLUMBUS, GEORGIA

Medley Manufacturing Co., Columbus, Ga. • Gastonia Roller, Flyer & Spindle Co., Gastonia, N. C. • Allan Textile Machine Co., Pawtucket, R. I.

AMIOCA

100% AMYLOYPECTIN STARCH

UNIQUE IN

- PASTE AND FILM PROPERTIES — Clear, Cohesive, Non-jelling, Non-skinning, Highly Viscous, Adhesive
- ABILITY OF PASTES TO RECOVER ORIGINAL PROPERTIES AFTER FREEZING
- EASE OF CONVERSION BY AMYLOLYTIC ENZYMES
- REMOISTENING PROPERTIES OF ITS DRIED FILMS
- COMMERCIALLY AVAILABLE IN LARGE QUANTITIES

AGAIN AVAILABLE: AMIOCA is the new commercial starch obtained from domestically bred waxy maize. The unique properties of pure AMIOCA and its modifications — *as successfully developed by National Starch Products* — should be studied by the food, paper and textile fields. These properties should be compared with tapioca, potato and other tuber starches; and with natural gums such as arabic, tragacanth, karaya and other thickeners.

DESCRIPTION: AMIOCA is unique among starches because it consists entirely of amyloypectin. It is generally believed to be a more or less branched or non-linear polymer of glucose. Its molecules, being highly hydrated and unable to readily associate, give rise to highly viscous, clear, cohesive pastes free from any tendency to thicken or jell on ageing.

Other commercial starches such as corn, tapioca, wheat, potato, etc., contain two components — usually 20-30% amylose in addition to amyloypectin. Amylose is believed to be a linear or straight chain polymer of glucose. In pastes, its molecules tend to associate with each other and with the amyloypectin molecules. This tendency leads to thickening, jelling and increased opacity.

AMIOCA comes as a white powder or in pearl form resembling ordinary corn starch. It gelatinizes sharply, starting at 70°C and proceeding over a range of only 8°C. It has a peak hot viscosity of approximately 4,000 centipoises in 20 parts of water; and 15,000 centipoises in 10 parts of water. AMIOCA modifications range from materials which require from 20 or more parts of water to those requiring less than 1 part of water at a comparable viscosity.

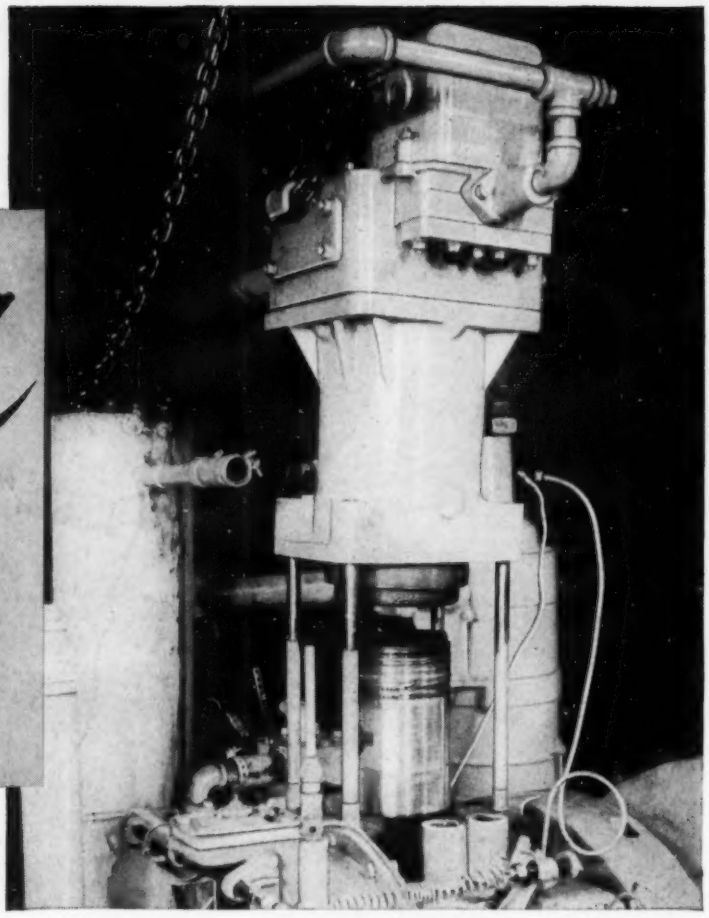
POSSIBLE APPLICATIONS: AMIOCA and AMIOCA modifications offer *textile sizings* which are non-jelling with good adhesive and film forming properties and with excellent rinsability . . . *textile finishes* with clear, glossy films, and resistance to iron-browning . . . *grease-proof tub sizings* with non-jelling properties that permit high solids application . . . *paper beater sizings* that are non-jelling and permit a high degree of hydration . . . *paper coatings* with higher solids and greater binding power at a given viscosity . . . *foods* with modified jelling properties, clarity and freedom from cereal taste . . . *frozen foods* with ability to recover their original properties after defrosting . . . *drum dried or dehydrated* foods with better stability and clarity.

WE'RE READY to match our research and laboratory efforts with yours in further exploration of Amioca starch applications to your products. Address: National Starch Products, Research and Development Labs., 270 Madison Avenue, New York City. Plants: Dunellen, N. J., Chicago, Indianapolis and San Francisco. In Canada: Meredith, Simmons & Co., Ltd., Toronto and Montreal. In Holland: Nationale Zetmeelindustrie, N. V. Veendam.

National STARCH PRODUCTS

STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

Clean ... FROM EAST CHICAGO



At Sinclair Research Laboratories, East Chicago, Ind., skilled technicians specialize in keeping it clean ... for you.

With today's accent on the detergency qualities of engine lubricants, Sinclair Research is constantly making tests to determine the cleansing properties of motor oils, diesel lubricants, and other products, using the special "come-apart" single cylinder diesel engine shown above.

Such tests—duplicating actual operating conditions—constitute an essential part of Sinclair's outstanding research, which has resulted in the development of ever finer petroleum products for over 30 years. At its soon-to-be-completed new Research Center, Harvey, Ill., Sinclair will continue to develop industrial and automotive lubricants of outstanding performance with greater facilities, finer equipment, and more highly skilled personnel than ever before.

Sinclair Textile Oils

LILY WHITE OILS

In grades to suit all spindle speeds, loads and operating conditions

Light color, long life

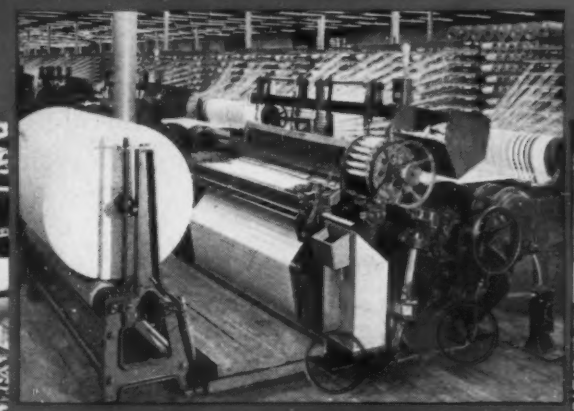
SINCLAIR REFINING COMPANY • 630 FIFTH AVENUE, NEW YORK 20, N. Y.

SINCLAIR

Lubricants for Industry

FINEST CRUDES + EXPERT RESEARCH and MANUFACTURING CONTROL = OUTSTANDING PERFORMANCE

EXCELSIOR MILLS



TOP — Draper Special XP Loom
BOTTOM — Whitin Twister

mounts Looms, Twisters and other Machinery on

UNISORB

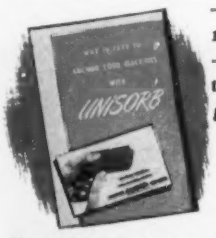
without BOLTS or LAG SCREWS

Deering, Milliken's modern, efficient Excelsior Mills at Clemson, S. C., are one of the nation's important makers of rayon tire cord.

In keeping with this manufacturer's alert, up-to-date methods, twisters, looms and other machinery are anchored in the *modern way* — on UNISORB . . . result: no bolts, no screws, *no damage to floors.*

UNISORB anchoring is quick, easy, inexpensive. A special cement binds the UNISORB to the machine feet and the floor — permanent set absolutely prevents any riding.

In addition to anchoring machines to the floor, UNISORB — correctly installed in accord with recommendations of Felters Engineers — will absorb from 60% to 85% of transmitted vibration and noise. By guarding against excessive vibration, UNISORB materially reduces shutdown hours, saves on machinery and building wear and repair. By providing quieter surroundings, it increases efficiency — helps toward greater production.



Send for sample and complete specifications. Ask for your copy of "Why it Pays to Anchor Your Machines with UNISORB."

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

THE FELTERS COMPANY

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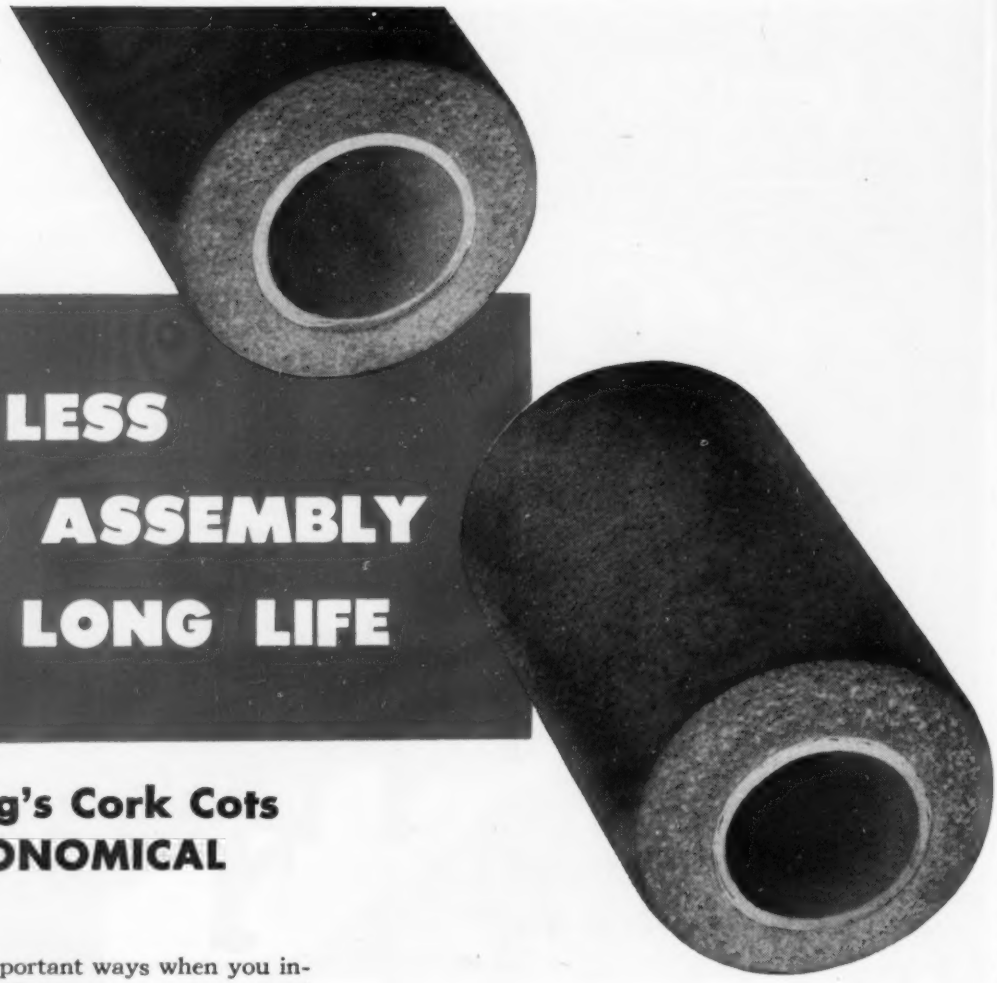


COST LESS
SPEED ASSEMBLY
HAVE LONG LIFE

Armstrong's Cork Cots are ECONOMICAL

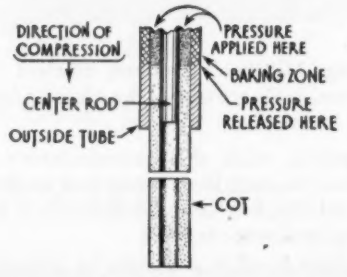
YOU SAVE in three important ways when you install Armstrong's Cork Cots on your spinning and roving frames. First, these widely used roll coverings are low in initial cost. Second, they go on fast. Assembly time is reduced as much as 50%. And third, they have a long service life.

The extra "grip" of Armstrong's Cork Cots gives you more uniform yarn. Their extra friction also carries waste well back onto the clearer boards—so no eyebrowing occurs. Thus there's no danger of waste's dropping off or being nipped into the yarn.

The extra resilience of Armstrong's Cork Cots provides quick recovery from most laps and hard ends. And because these cots are extruded, they have no hard or soft spots to grip the yarn unevenly. They retain these spinning advantages throughout a long initial service life. In addition, they can be rebuffed for three or four additional full length service lives.

Get all the facts on these economical cork cots from your Armstrong representative. Or write today to Armstrong Cork Company, Textile Products Dept., 3612 Arch St., Lancaster, Pa.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



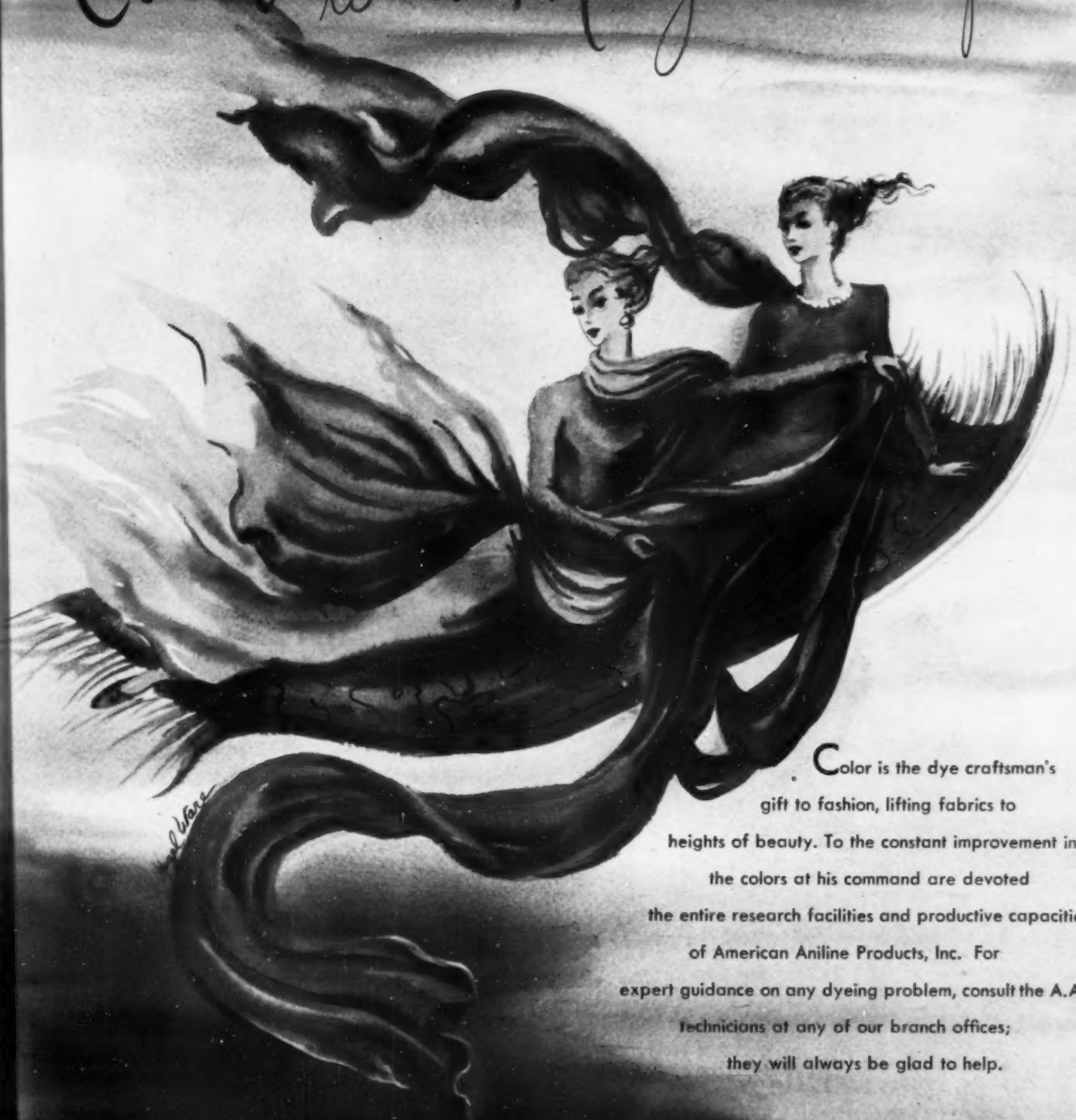
Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn, lasts longer.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

Color is a Magic Carpet



Color is the dye craftsman's gift to fashion, lifting fabrics to heights of beauty. To the constant improvement in the colors at his command are devoted the entire research facilities and productive capacities of American Aniline Products, Inc. For expert guidance on any dyeing problem, consult the A.A.P. technicians at any of our branch offices; they will always be glad to help.

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Toronto, Canada · Montreal, Canada

Photos by Harry Pennington on the Gallagher Ranch Near Bandera, Texas

Goats DO Make Good Neighbors . . .

. . . to a textile mill using mohair. And where—except in Texas—can you find 91% of the nation's mohair* on the hoof? Where else can you find 20% of the nation's cotton and 24% of its wool? Plus an expanding production of synthetics made from the hydrocarbons of oil and natural gas.

Where else can you find these raw materials supplemented by such other industrial resources as an abundance of pure water; rail and deep-water transportation facilities; easy access to markets in big Texas, the Middle West, both coasts, and booming Latin America; a progressive group of strong financial institutions?

Where else can you find 58% of the country's natural gas reserves? Where else can you find an industrial fuel as economical, as clean, as dependable as natural gas?

Textiles are following chemicals southwestward. Be among the first to profit from the Texas Coast Country's advantages of location—build your new mill in friendly Texas.

**Angora goats thrive in Texas; there are approximately 3,660,000 goats on Texas ranches.*

Let Us Tell You About Texas' Textile Possibilities

Come down to visit us, or write us for specific information on the Texas Coast Country's advantages for your plant. Your request will be kept in confidence. Address Research Department, Houston Pipe Line Company, Houston, Texas.

HOUSTON PIPE LINE CO.
Subsidiary of Houston Oil Company of Texas
GEO. A. HILL, JR., President
Wholesalers of Natural GAS

NOW

20,000,000 YARDS PER WEEK

BLEACHED IN DU PONT CONTINUOUS PEROXIDE SYSTEMS

THAT'S the total production figure from present installations. And, with continuous bleach construction under way in other mills, the 20,000,000 figure *will soon be doubled!*

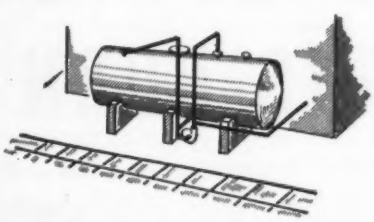
The Du Pont System is the right answer to modern bleaching requirements. It's continuous. It's speedy. It permits quality production. It's most economical. It's adaptable to mill requirements.

We'd like to tell you more about how the Du Pont Rope and Open-Width Systems can fit your bleaching needs. Du Pont bleaching experts will be pleased to work with you, to survey your plant, study your requirements, help you select the proper equipment and assist you in many other ways. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

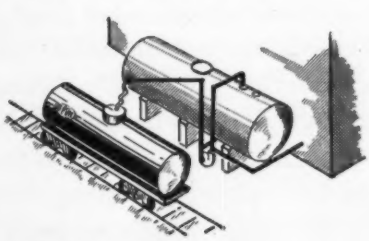
Tune in to Du Pont "Cavalcade of America," Monday Nights—8 p. m. EST, NBC.

If you need 5000 lbs. or more of "Albone" 35 (35% Hydrogen Peroxide) per month, you'll find a storage tank installation to be economical.

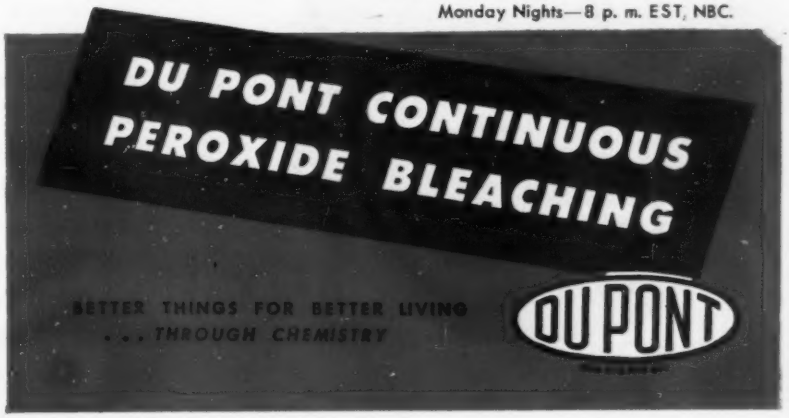
FOR GREATEST ECONOMY, CONSIDER:

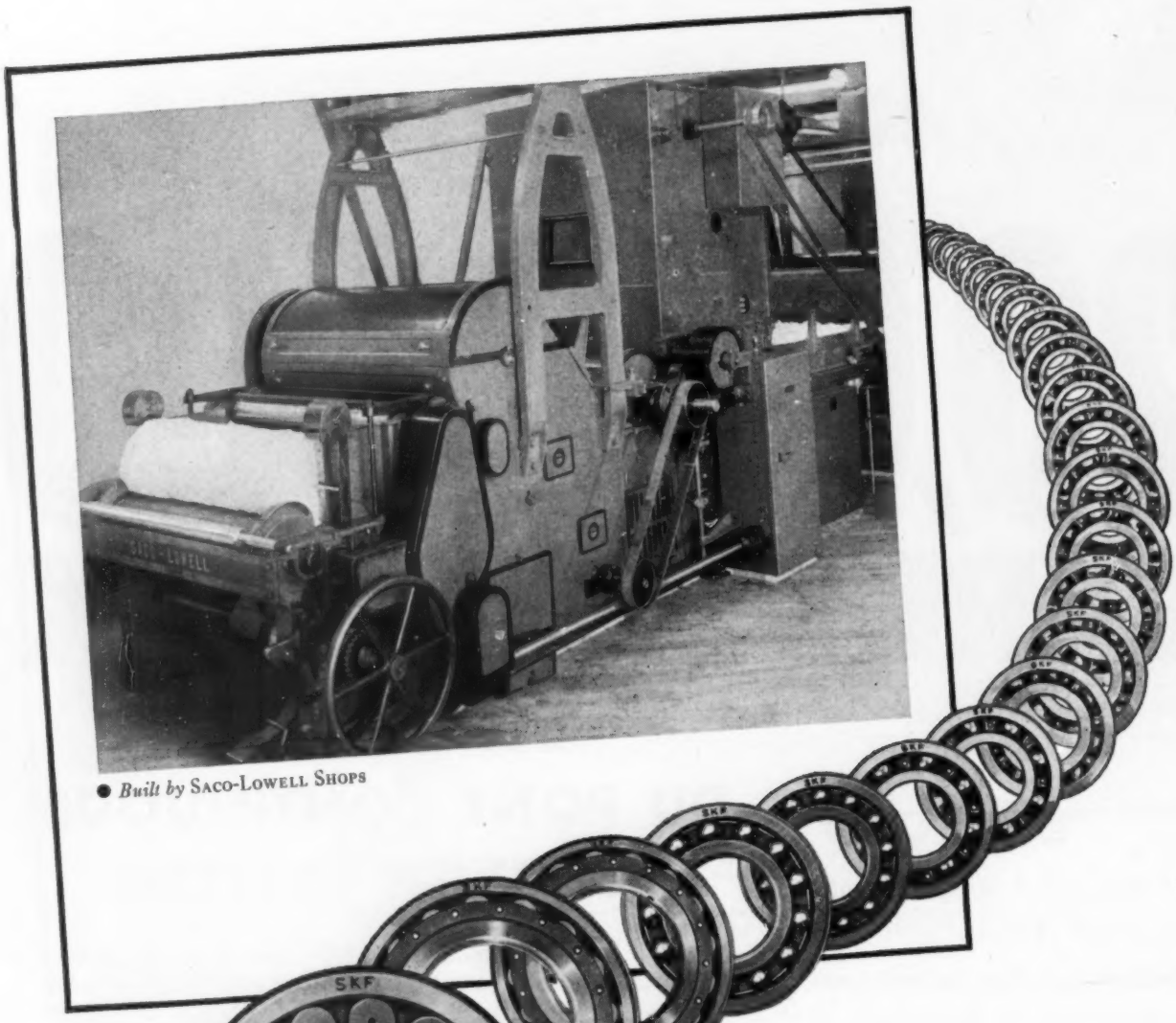


TANK STORAGE AT THE MILL



TANK CAR DELIVERIES





● *Built by* SACO-LOWELL SHOPS

SKF
Puts the RIGHT BEARING in the RIGHT PLACE

WHERE COTTON YARN IS BORN

Evenness and cleanliness of laps produced by this finisher section of a One Process Picker affects every subsequent operation in the mill. And this depends, to an important degree, upon the clean, smooth, and continuous functioning of SKF Ball Bearings on the spur spiral drive, No. 7 Evener cone box, beater and fan, and the Blending Reserve doffer. In every SKF Bearing, dependability is united with high load carrying capacity, freedom from constant attention, and low maintenance costs. Those are the things that count on the vital rotating parts of machines of any kind. 6366

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

Avoid costly replacements by using

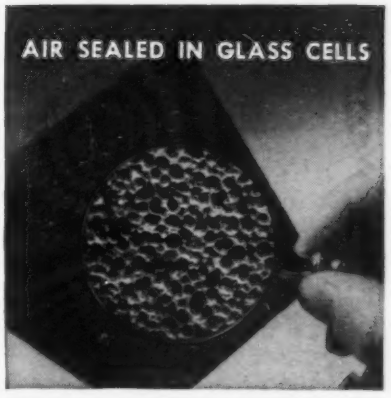
PC FOAMGLAS INSULATION

When installed according to our specifications, for recommended applications, PC Foamglas retains its original insulating efficiency *permanently.*

ON roofs and ceilings, in walls and floors, in a wide variety of buildings, PC Foamglas insulation helps to maintain temperature levels, to minimize condensation, to withstand humidity. Being glass, PC Foamglas is impervious to many elements — such as acid atmospheres, vapors and fumes—that cause other materials to lose insulating efficiency to the point where they must be replaced.

Your buildings, like all others, present individual insulating problems. We shall be glad to consult with you upon request, to determine how and where PC Foamglas can help maintain desired conditions. You incur no obligation.

We shall be glad to send you our booklets, which give full information on the installation of PC Foamglas for ordinary service. Just mail the convenient coupon. Pittsburgh Corning Corporation also makes PC Glass Blocks.



When you insulate with FOAMGLAS you insulate for good.

PITTSBURGH PC CORNING ® **FOAMGLAS INSULATION**

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS

Pittsburgh Corning Corporation
Room 492, 632 Duquesne Way
Pittsburgh 22, Pa.

Please send me without obligation, your free booklets on the use of PC Foamglas insulation for:

Roofs_____ Walls_____ Floors_____

Name_____

Address_____

City_____ State_____

Your Everyday Piping Needs Now Filled from Local Stocks

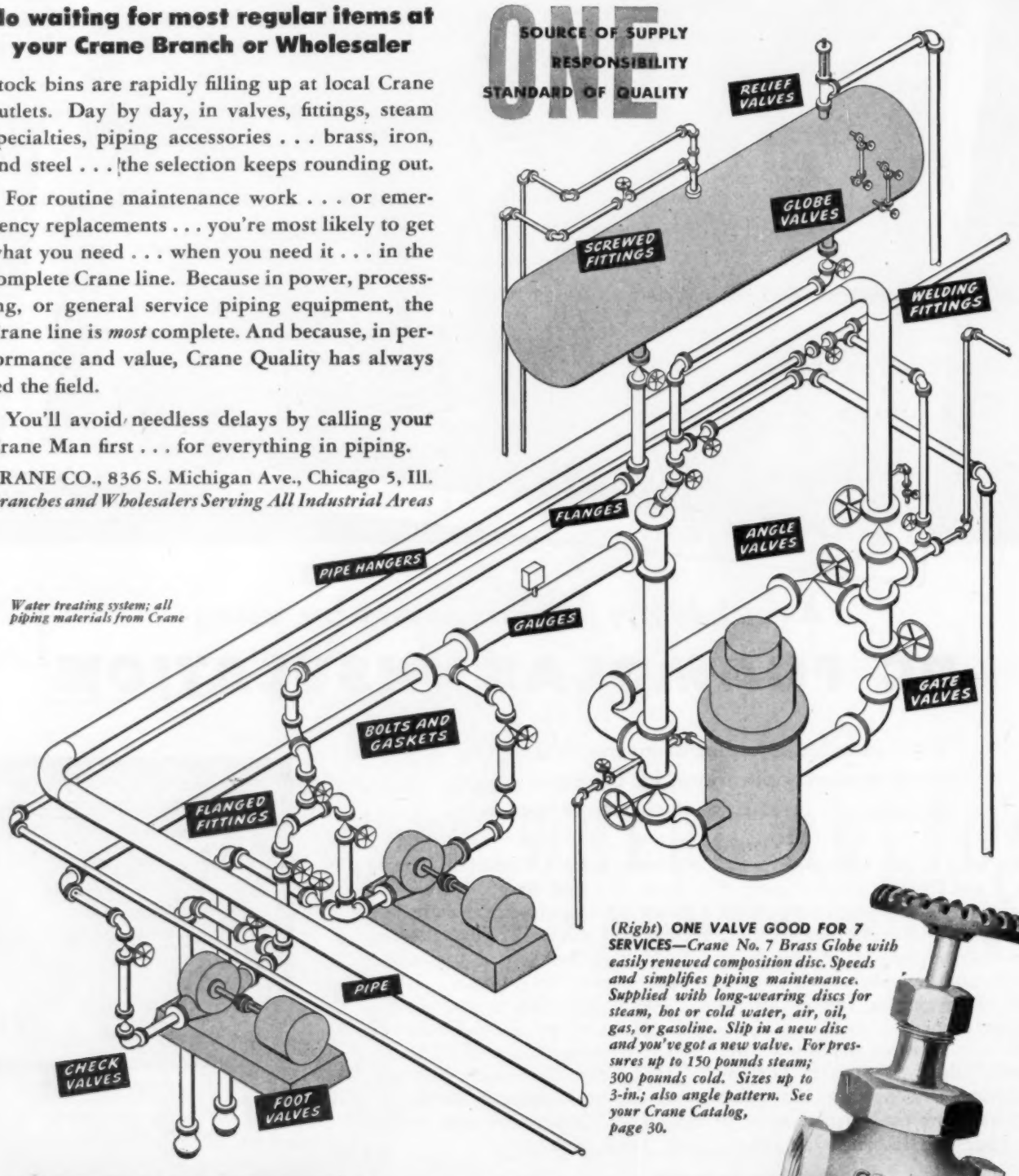
No waiting for most regular items at your Crane Branch or Wholesaler

Stock bins are rapidly filling up at local Crane outlets. Day by day, in valves, fittings, steam specialties, piping accessories . . . brass, iron, and steel . . . the selection keeps rounding out.

For routine maintenance work . . . or emergency replacements . . . you're most likely to get what you need . . . when you need it . . . in the complete Crane line. Because in power, processing, or general service piping equipment, the Crane line is *most* complete. And because, in performance and value, Crane Quality has always led the field.

You'll avoid needless delays by calling your Crane Man first . . . for everything in piping.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas



Water treating system; all piping materials from Crane

(*Right*) **ONE VALVE GOOD FOR 7 SERVICES**—*Crane No. 7 Brass Globe with easily renewed composition disc. Speeds and simplifies piping maintenance. Supplied with long-wearing discs for steam, hot or cold water, air, oil, gas, or gasoline. Slip in a new disc and you've got a new valve. For pressures up to 150 pounds steam; 300 pounds cold. Sizes up to 3-in.; also angle pattern. See your Crane Catalog, page 30.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

To Worsted Spinners

here's the new, chemical way:

- To increase production
- To improve yarn quality
- To improve spinning efficiency
- To lower manufacturing costs

Monsanto's unique new spinning assistant, Syton W-20 offers you six important advantages:

1. Reduces twist without strength loss
2. Reduces ends down on the spinning frame
3. Produces loftier yarn
4. Cuts spinning time and cost
5. Produces more uniform yarn
6. Reduces aging time after oiling

What is Syton? How does it work?

Syton is a colloidal dispersion in water of sub-microscopic silica.

When distributed evenly throughout the stock, Syton increases interfiber friction and thereby reduces the tendency of the individual fibers to slide by one another.

The improved fiber "drag" increases strength and results in better and more uniform draft control of the wool fibers during both drawing and spinning.

Syton is simply added to the spinning emulsion. No special equipment, no heat, no after-process is required. Syton is compatible with dyes and oils. It can easily be washed out when necessary.

If you are interested in learning more about Syton W-20 . . . regarded as the first basic improvement in worsted spinning practice in 40 years . . . use the handy coupon below. MONSANTO CHEMICAL COMPANY, Textile Chemicals Department, 140 Federal Street, Boston 10, Mass. Syton: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS ··· PLASTICS

Monsanto Chemical Company
Textile Chemicals Dept.
140 Federal Street, Room 231, Boston 10, Mass.
Please send me ..... technical data, or ..... information about mill trial on Syton W-20 for Worsted Spinning:

Company.....
Name..... Title.....
Address.....
City..... State.....

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Consider the many advantages of the *Aluminum Adapter* on your present spindles together with the newly developed *ALUMINUM warp spinning bobbin.*

★ PATENTS PENDING

SAVE—on doffing and spooling costs with more yarn per bobbin with aluminum or paper tube spinning.

IMPROVE YOUR SPINNING—with this durable precision aluminum bobbin and its plastic insert for top drive spinning. With our adapter mounted on your present spindle you will eliminate vibrations and reduce ends downs.

GET READY NOW FOR THOSE COMPETITIVE DAYS AHEAD — WITH BETTER SPINNING!

With our aluminum spindle adapter made to your individual specifications your spindles can be converted for better spinning ***with either straight or tapered bobbins.***

Our price includes the complete reworking of your spindle to assure you of proper concentricity and balance. Moreover, the bobbins will be driven correctly—from the top.

You will get up to 40% more yarn on each bobbin and the annual savings secured through this conversion should amount to a 30% return on your investment.

We invite you to try this conversion on one frame so that you will have a comparison in your own mill and can check the improved results.

F. L. REGNERY Corp.

PRECISION TOOLS • PRODUCTION • AND ENGINEERING

613 WEST 16TH STREET, CHICAGO 16, ILLINOIS

Southern Representatives: Harry S. Parker, Jr., Goldville, S. C.; John L. Bricker, Goldville, S. C.
Eastern Representative: David C. Meyers, St. Davids, Penna.

TEXTILE BANKING COMPANY

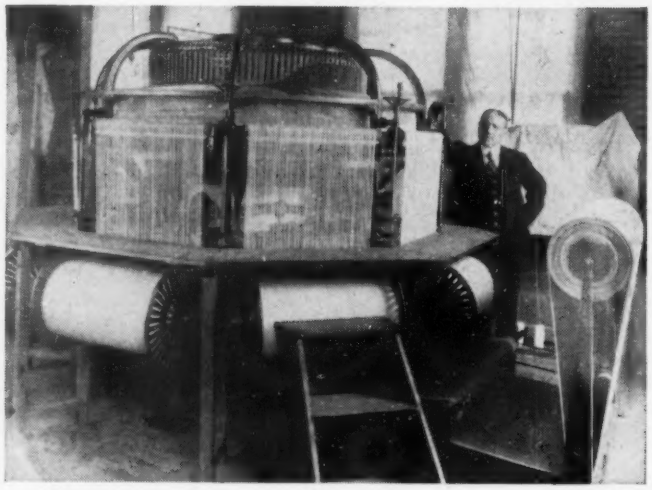
Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

It Looked Like A Good Idea...



at the Time

Years ago, the unknown inventor built this circular loom to revolutionize the weaving industry! And every year, hundreds of individual attempts are made to improve loom design . . . some of them practical . . . many more impractical. But all of them, in one way or another, contribute something to progress.

The great majority of these attempts find their way, naturally, to the "Clearing House of Ideas" at C&K. All these ideas are carefully weighed and tested in the engineering and research departments. Only the best are passed on to you, in C&K Looms . . . and then only after they have passed muster with at least one of

C&K's 6 Sentries of Modern Weave-room Efficiency:

1. Does it increase Speed of Operation?
2. Does it increase Continuity of Operation?
3. Does it decrease the Work of the Operator?
4. Does it decrease Cost of Maintenance?
5. Does it improve Quality of Fabric?
6. Does it improve Appearance or Utility?

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N.C. • ALLENTOWN, PA.

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

between Today's Knowledge . . . and Tomorrow's Looms

RAPIDASE
for de-sizing

The dependable, rapid and economical de-sizing agent for cottons, rayons and mixed goods. Applicable over a wide range of processes, temperatures and speeds.

HAS PROVED PARTICULARLY SUITABLE FOR CONTINUOUS DE-SIZING

WALLERSTEIN COMPANY, INC. • 180 MADISON AVENUE • NEW YORK 16, N. Y.

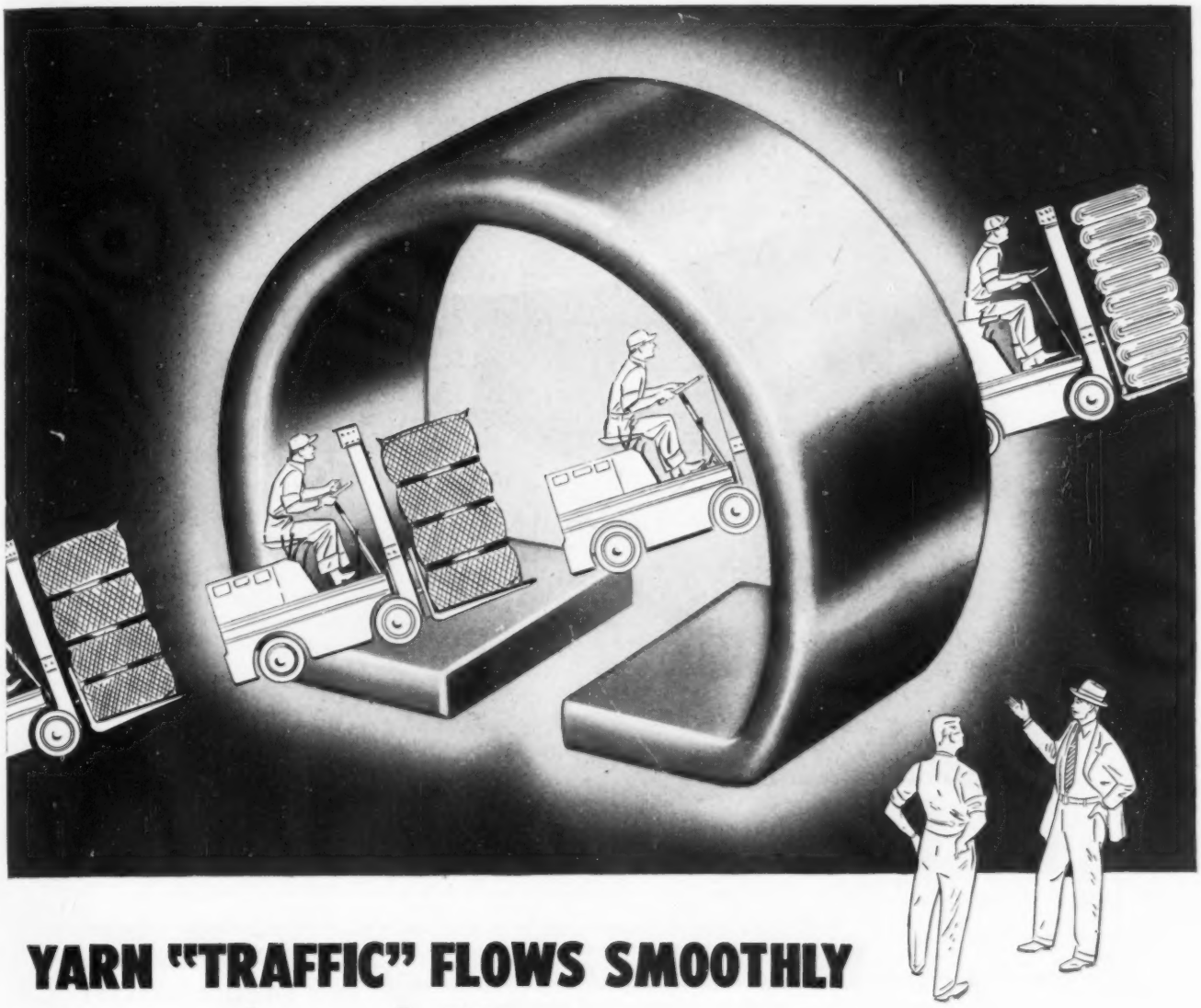
PICKER REPAIR PARTS
For IMMEDIATE DELIVERY

We manufacture and keep on hand for immediate delivery a complete stock of repair parts for Kitson pickers. We can also furnish many parts, such as screens, ball bearings, aprons, and beaters, for other pickers.

In an emergency, a telephone call or telegram can have the needed repair parts at your plant the day after the order is placed.

Aldrich rebuilt pickers are exactly like new machines, and where it is not feasible to have your own pickers rebuilt, these can be exchanged for similar sections in our warehouse which can be rebuilt for you and installed with little or no interruption to production.

AldricH MachinE
Greenwood **WorkS** South Carolina



YARN "TRAFFIC" FLOWS SMOOTHLY

. . . through Victors

SINCE MOST MILLS' entire output passes through travelers — whether yarn traffic is speeded or stalled depends on your selection.

Which are your travelers — bottlenecks or broad highways? Assuming equipment is in proper condition, if the traveler is **wrong**, the flow of work through the mill will be slowed up at the spinning or twisting, production will lag, quality will suffer, and profits will sag. If the traveler is **right**, you can meet output schedules, cut down waste, and upgrade quality.

With the many new developments in synthetics and blends, it is becoming more and more difficult to be sure the traveler you use is **right** for the job. To save valuable time in setting up the smooth-running spinning and twisting you want, you need up-to-the-minute information.

There's a man near you who knows what you want to know about choosing travelers. He's the Victor Service Engineer and his job is to keep abreast of every new development. He will help you select the **right** traveler for any fiber, any blend you may be running. Write, wire, or phone the nearest Victor office for prompt service.

Keep a Step ahead with

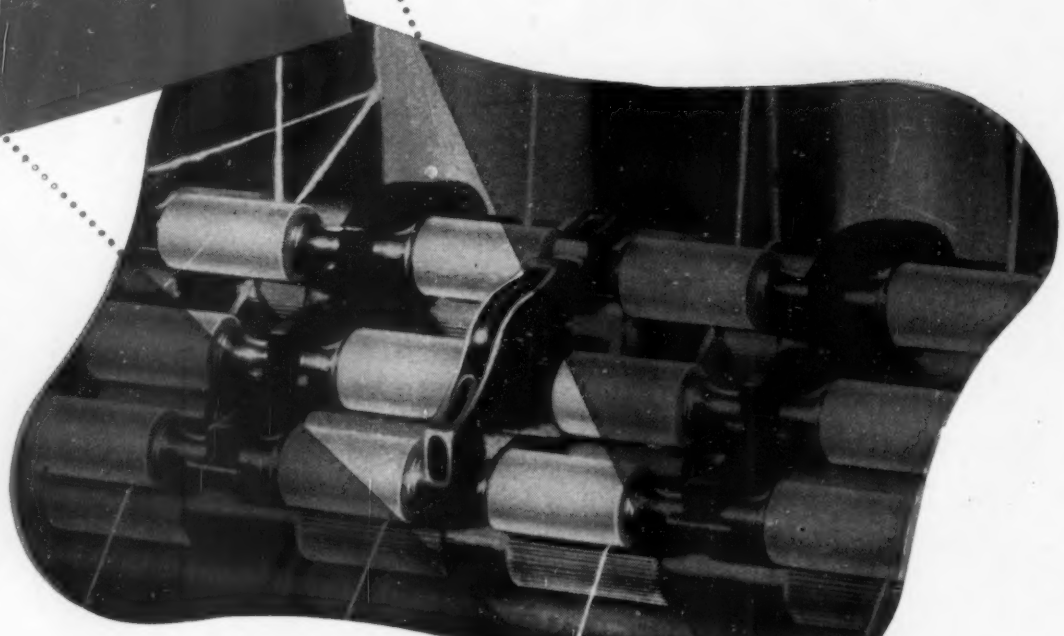
VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 247

Daycos never groove, hollow out, flatten or distort



Dayco roll coverings are especially engineered with an extremely durable surface, perfect cushion and exactly the right coefficient of friction. That's why they won't groove, hollow out, flatten or distort, no matter how long they run . . . why they outlive all other type roll coverings.

Whether you use flat or revolving clearers, whether you draft cotton or synthetics, Dayco roll coverings will produce better quality yarn, more economically. A Dayton textile product engineer will gladly demonstrate these advantages to you. He'll call at your convenience. Write today, to . . .

TEXTILE PRODUCTS DIVISION • DAYTON RUBBER
Main Sales Office: Woodside Bldg., Greenville, S. C.
Factory: Waynesville, N. C.

MORE REASONS WHY YOU SHOULD SPECIFY DAYCO COVERINGS

- Large reduction of ends down
- More of the foreign elements are removed from yarn
- Specially compounded for uniform wear, lengthening service life
- Same trouble-free service, for special types of synthetic and synthetic blends of yarn
- Not affected by humidity or temperature changes
- Oil resisting and static-free
- No grooving—less ends down
- Easy to apply

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

Showing Longevity of Issues

"Your March 1946 issue carried an article by Horace L. Pratt on Counting Neps in Fibers. Can you give us the names of some concerns who make the inspecting machines as illustrated in this article?"

J. F. COOK
Purchasing Agent
Nashawena Mills
New Bedford, Mass.

◆

We've Had Several Similar Comments

"I wish to congratulate you on the Pepperell Bleachery article (October 1947 issue). It is damn good. Two or three of our engineers who worked on the job expressed a desire to have a copy of it, and I wonder if you have a few that you could send me."

CARL SHANNON
Vice President
Robert & Company, Inc.
Atlanta, Ga.

(We did not try to make the silk purse from the sow's ear. Shannon, who handled the work, had done a good job. The story wrote itself.)

◆

He Ought to Know

"We think you did a swell job in preparing the article [Pepperell Bleachery, October '47] and have heard very nice comments about it."

W. T. KENNEDY
Manager
Finishing Division
Pepperell Mfg. Co.
Opelika, Ala.

◆

A Hit with the Norwegians

"As we are very interested in 'Visual Aids for the Textile Industry' (July 1947 issue) we would like to order 10 copies of it."

K. KRISTOFFERSEN
Secretary
Norwegian Textile Technical Assn.
Bergen, Norway

(4 copies of the same were ordered about the same time by F. Beyer's Bok-& Papirhandel in Bergen, Norway.)

◆

Correcting an Error

"We would like to call your attention to an error (October issue, page 179). The Wagnermobile Lift weighs 7425 pounds—not 425 pounds, as your story reads. This, as you see, adds up to a considerable difference in weight."

BOB HARGREAVES
Hargreaves Adv. Agcy.
Portland, Ore.

(Sorry, but what's 7000 lbs. between friends. Hope the same mistake doesn't appear on our pay check.)

◆

Wants a Mill Connection

"We are looking for a good mill connection to supply us with a good grade of light weight duck. We use a No. 10 weight in 36" width and can order between 5,000 and 10,000 yards."

GEORGE H. JUNG, JR.
Jung Arch Brace Co.
Cincinnati, O.

(This is a well-known manufacturer of elastic braces and supports, and judging from their needs, a great many folks besides your S & R reporter have foot trouble.)

SHORTS and REMNANTS

By M. L. D.

◆

Praise from a Union Official

"I enjoy reading TEXTILE INDUSTRIES. It enables me to keep a proper perspective in my handling of industrial relations. I have collected a number of very instructive articles from your publication."

THEOPHILE J. DES ROCHES
Secretary-Treasurer
Weavers' Cloth-Room, Aux. Workers Union
New Bedford, Mass.

(Some union folks have called us bad names.)

◆

Interest in Nomograms

"We shall greatly appreciate your sending us six tear sheets of this Nomogram (for yarn number conversion, September issue). Best wishes for a continuation of your fine publication."

C. R. BARTON
Asst. Service Manager
Industrial Rayon Corporation
New York City

◆

Thank You, Mr. Sung

"I should like very much to explain my gratitude to you, that through your advertising I have received many books and catalogs from your advertisers. Those booklets are of great use and surely will do a great favor to me. Notwithstanding your honorary service and typical cooperation, your publishing is really a superior advancing magazine in the modern textile field."

Z. K. SUNG
Engineer
C.T.I. Cotton Mill

◆

Like John Duerst's Article

"We are very interested in the article 'Cotton Yarn Structure Constants,' by John Duerst, which appeared in the September issue. If there is any possibility of our receiving three reprints of this article for use in our laboratory and engineering department, we would appreciate it very much."

J. E. FOTHERGILL
Asst. Plant Supt.
Commercial Filters Corp.
Boston, Mass.

(So many requests for this one that we went back and read it again.)

◆

An Open Invitation

We hear from R. C. Simpson, who has worked as overseer of weaving in the two Carolinas and Alabama, that he has retired to his farm (4½ miles from Greenville, S. C., on Highway 29) and wants his friends to drop by at any time. Mr. Simpson is a bit ahead of us on this one, because we'd also like to retire and raise a chicken or catch a fish—when we do, and that's looking ahead, there'll be an open invitation, just like Mr. Simpson's.

◆

2,000% More Profit

Testifying before the recent congressional inquiry into prices in Atlanta, the CIO representative flatly charged the textile industry with making 2,000% more profit than in 1939, during which time he admitted that wages have gone up only 147%.

Without looking up the profits of 1939, and, of course, believing everything that appears under the CIO label, we still had respect for the 2,000% increase.

Perhaps borrowing a fixer from one mill for a week could help us all kick our own profits up another ten per cent. Our request is already in.

◆

Not an Uncommon Request

"We beg to have a copy of your magazine giving the addresses of some American textile factories with which we wish to deal."

GENERAL ORIENTAL AGENCY
Cairo, Egypt

◆

An Artist Expanding

"Can you advise me as to where I might be able to purchase cloth, silk, cotton, handkerchief linen, rayon, etc., for the production of screen process work."

L. M. KIPP
Artist,
Los Angeles, Calif.

◆

From Our Friends in Mexico

"We would appreciate any suggestion you may give us as to where we can write to purchase a loom cleaning machine, either suction or blower type. Any suggestion which you may also give us as to how to clean the 200 looms which we actually have, will also be appreciated."

CARLOS CHAMBON
Textiles Sonora, S. A.

◆

Among Our Hosiery Souvenirs

"Please send us 12 copies of your pamphlet 'How to Straighten Full Fashioned Needles' which was a reprint from your September 1946 issue."

JAMES C. STEWART
Jaclyn Hosiery Mills, Inc.,
Camden, S. C.

(One of numerous similar requests for a very popular and informative article.)

◆

At Home and Abroad, the Same

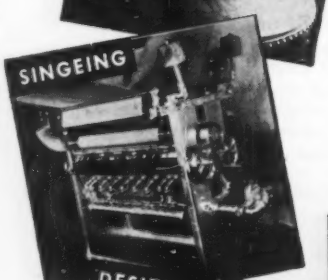
"I thank you very much for these copies (July and August) and am finding them most interesting."

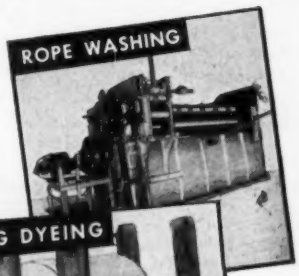
J. A. POTTER
Chief Chemist
Wolsey Limited
Abbey Meadow Mills, Leicester
England

Jack of all Trades

—and Master, too!

TRITON 770





Mill men know TRITON 770 CONCENTRATE as a dependable detergent, wetting and emulsifying agent. But did you ever realize how *many* different jobs TRITON 770 CONCENTRATE does in the textile mill? Glance over the applications shown on this page . . . they show *some* of the processes in which this dependable chemical helps in making textile mill operations more efficient and more economical. Write for full information on how you can use this fine chemical to advantage.

THE SERVICE THAT BUILT OUR BUSINESS CAN HELP YOURS

Our business has been built largely on the practical help we have been able to give our customers, right in their own plants, in adapting Rohm & Haas products to their needs.

Our representatives are men with technical training and practical experience in the use of industrial chemicals. Call in a member of our textile chemicals department when you need assistance in choosing or using . . .

Chemicals for Fine Textiles

TRITON *is a trade-mark, Reg. U. S. Pat. Off.*

Represented in Canada by Rohm & Haas Company of Canada, Ltd., Toronto; and in South America by Cia. Rohm y Haas, S. R. L., Carlos Pellegrini 331, Buenos Aires, Argentina, and agents in principal South American cities.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Manufacturers of Chemicals including Plastics • Synthetic Insecticides • Fungicides • Enzymes • Detergents, Germicides • Chemicals for the Leather, Textile, Ceramic, Rubber, Paper, Petroleum and other Industries

Textile Industries

DECEMBER
1947

The Plight of Britain

THE INDUSTRIAL Revolution was born in England, and it built the British Empire. Since the history of this empire has closely paralleled the development of our own country, its fate is most important to all of us.

A few earth-shaking inventions which, by our modern standards, would seem childishly simple were made in Britain in the middle of the 18th Century. They changed the whole history of civilization to an extent that we today can hardly realize.

The basic habits of human beings had changed little from the dawn of history until the beginning of the Industrial Revolution. The things that people needed for shelter, clothing, and food were practically the same in A.D. 1750 as in B.C. 3000. The conveyances that they used had changed very little, and the means of communication were substantially the same through all that long procession of centuries. All this was changed within a lifetime, and through the application of these few comparatively simple inventions, the human race made more progress economically in 100 years than it had made in the previous 5000.

For unknown centuries every household had been slave to the spinning wheel, the loom, and the needle. Only by the most incredible toil could enough yarn be spun, cloth woven, and sewed into garments to clothe the family, even if it had the means of obtaining the necessary wool or cotton. The labor of making clothing was so great that it overshadowed most of the other household tasks. For centuries there had been no noticeable improvement in the method of making yarn and cloth.

About the middle of the 18th Century, an Englishman invented a spinning machine which multiplied the capacity of one person to produce yarn by several times. Compared to our modern spinning frames, it was a poor and clumsy thing, but it so greatly increased the capacity for yarn production that on this little thing was placed the cornerstone of the British Empire. About this same time a Scotch inventor devised a steam engine to furnish the power to turn the spindles, and the Industrial Revolution was on its way.

THE SPINNING frame and the power loom which accompanied it were not greeted with enthusiasm by the textile workers of England, and it is somewhat doubtful if these devices could have been developed as fully as they were in England in any of the Continental countries where the grip of the guilds, or trade unions, on the national economies was so strong. In England, as elsewhere, the people who thought that they were going to be injured or dispossessed by these industrial changes, fought the changes.

The English textile workers bitterly opposed the introduction of labor-saving methods for producing yarn and cloth. With the customary shortsightedness of human beings, they could not visualize a

Index for 1947

THE reader's attention is invited to the Index for 1947, which is included with this issue. The general and technical articles are listed therein for the entire year, including those appearing in this issue.

The Index is for ready reference by the reader, and is part of this magazine's service to subscribers. Information appearing during 1947 may be located by topic headings, abstracts, interest, fiber classification, title, or author-title index. Cross-indexing has been applied to technical discussion reports.

A file of the 12 issues of "Textile Industries" for 1947 is essential to the proper use of the Index. Unfortunately, it is impossible to supply complete copies of the magazine for the year; in some instances it is even difficult to supply tear sheets of articles — due to the paper supply— but where possible, requests for tear sheets will be met.

Many mills are having the 12 issues bound for permanent reference, a job that can be done quickly and inexpensively by local printers.

In addition to the Index appearing with this issue, separate copies may be secured from the editors.

fabulously expanded market for goods, but could see the possibility of multiplied productivity throwing many people out of work. According to their reasoning, if one man could produce the goods of 10, then nine men must starve. They could not grasp the idea that if one man could do the work of 10, then nine men could be clothed where one was clothed before, and that the possibilities of such expanding markets opened up economic prospects never before even imagined.

The possibility of liberating the human race from the tyranny of the spinning wheel soon created a tremendous demand for more fibers to be spun by the new labor-saving machinery. Cotton had been known for centuries, but since the lint had to be picked by hand from the seed, it had not been a cheap fiber, and when machinery began to grind out quantities of cotton yarn the demand for the lint greatly exceeded any reasonable hope of supply.

When there is great enough demand for anything, human ingenuity is at once set to work to supply that demand, and in the latter part of the 18th Century a machine was devised for removing the lint from cotton cheaply, quickly, and in unlimited volume. Thus, at one stroke of genius, the textile mills of England were afforded a tremendous supply of cotton, while the rich lands of our southern states were developed into a cotton growing empire.

With the fabulous multiplication of cloth, there was an urgent need for means of sewing it into clothing with less labor than was required by the needle, which mankind had used with little change for several thousand years. Near the middle of the 19th Century, this problem was solved by the invention of the sewing machine, and the demand for cloth multiplied again.

SINCE THE POWER spinning frame was originated in England, and English laws very strictly forbade the exportation of any textile machinery or plans for making textile machinery, England had a head start of 40 or 50 years over the rest of the world in the production of machine-made textiles. The profits from these cheaply produced fabrics were so enormous that wealth began to pour into England at a rate which soon enabled the British people to develop many other mechanical improvements which were found necessary by the expanding demand for textile equipment.

The foundation of any new industry automatically makes necessary a whole host of collateral activities. The spinning frame required iron foundries, machine shops, tanneries, coal mining, ships, and numerous other necessary things to assist in its development. In all of these things England had the jump on the rest of the world, and since from the nature of their insular condition they were great seafaring people, they had ready at hand the means of distributing their new wealth throughout the world and taking back the world's wealth in exchange to England. It is difficult for us who have had our business training in an age of biting competition and small profits on high production, to comprehend the incredible profits that could be realized with even crude machinery in a machineless age.

At that period, perhaps the greatest single demand in the world for manufactured goods was in cotton textiles, and machinery which multiplied, first by 10 then by 100 and then by 1000, the capacity of a single person to produce textiles offered opportunities for profit beyond the range of our modern imaginations. Remember, the demand was there; and for generations it was impossible to produce enough goods to even satisfy the demand, without affecting prices. For generations, the British spinning mills were competing only with hand labor, and the profits reaped were almost beyond belief.

Such profits could be devoted to two general purposes. They could be used to raise the living standard of the British people far above that of the rest of the world, or they could be exported to extend British influence and build an empire. The men in charge of the British government for a century or more seemed to favor the imperial plan, and while the lot of the British workman was probably better than that of his brother abroad, it was bad enough to excite the sympathy of many Britons like Charles Dickens, who spent a lifetime trying to divert more of this incalculable wealth to the use of the laborers who helped to create it.

At the beginning of the Industrial Revolution, the British Isles had a rather small population, for as Malthus has pointed out, a country can only have such population as it can support. With industrialization, Britain was capable of producing such quantities of wealth to be exchanged for other forms of wealth that it could support increasingly large populations. There are now some 45 millions of people in England crowded into an area about the size of the State of Georgia. Much of this area is necessarily taken up by the homesteads of the people, and the remainder is by no means all arable land, so that the English can hardly supply one-third of the foodstuffs and other agricultural supplies that they require.

England is almost totally devoid of any natural resources except coal, but so long as England was pre-eminent in the production of machine-made goods, it was in a position to demand of the rest of the world whatever supplies might be required.

The British economy, however, has from the beginning of the Industrial Revolution, rested on a rather insecure base. It was inevitable that other countries must sooner or later obtain the technical knowledge necessary to start their own industries, and those countries blessed with tremendous resources in raw materials would certainly have a tremendous advantage over the British in meeting worldwide competition. A nation that had to send thousands of miles for raw materials which another nation had ready at hand could hardly expect to compete on even terms with the more favored country.

Furthermore, there is a tendency inherent in all human beings to rest on one's laurels—to sit back

(*Continued on page* 173)

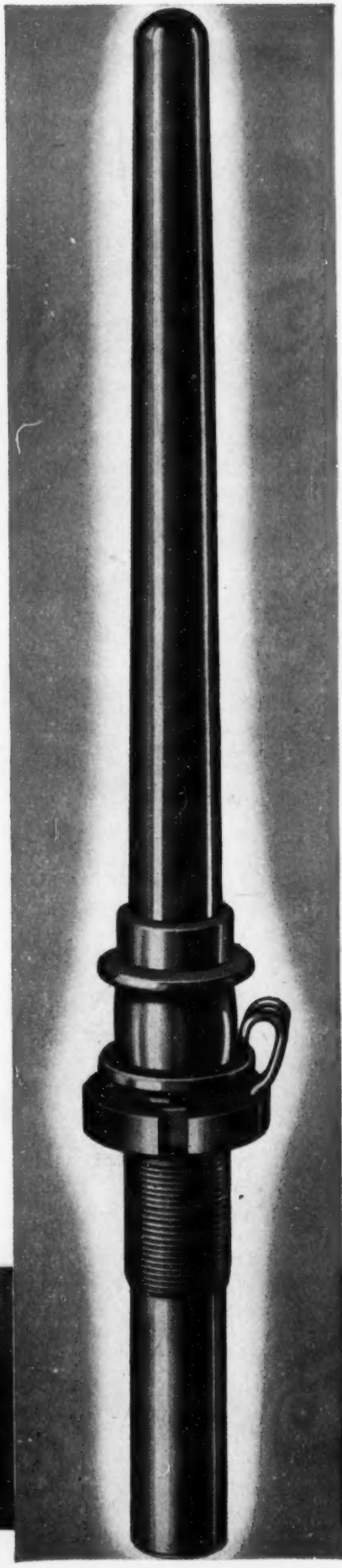
"Food" by John Atherton

CONTAINER CORPORATION OF AMERICA

MODERN TEXTILE PACKAGING

Marquette
ROLLER BEARING COTTON SPINDLES
with FULL-FLOATING FOOTSTEP BEARING

. . . . . insure continuous operation and reduce your costs. The standard Marquette cotton spindle, equipped with aluminum adapter (as illustrated) for use with paper tubes, is one of many types that has been giving satisfactory service for many years.



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Marquette METAL PRODUCTS CO.
CLEVELAND 10, OHIO

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Manufacturers of HYDRAULIC AND ELECTRIC WINDSHIELD WIPERS · FUEL OIL PUMPS · HYDRAULIC GOVERNORS FOR DIESEL ENGINES · ROLLER BEARING TEXTILE SPINDLES AIR COMPRESSORS · PRECISION PARTS AND ASSEMBLIES

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By G. R. SCHENCK and HARVEY MATTHEWS

Director, Industrial Relations — **Director, Public Relations**

Riegel Textile Corporation

A sound investment---or a total loss?

TEXTILE companies, like others in America today, have a common need — *understanding.* Employers and employees have a mutual interest in this understanding. As fellow citizens, their stake in America's future is the same.

But industry must take the initiative toward understanding by showing how their interests merge.

Every indication from public opinion polls to expressions by those in management, labor, and government points to the delinquency of industry in the realm of ideas. Industry has done its job in the national economy, but it has left misinformation or vacuums in the national mind.

Misinformation will fester unless treated with the surgery of facts.

Vacuums will be filled with propaganda unless truth gets there first.

During the war years the textile industry made its greatest strides in industrial relations. Wage levels, working conditions, and prequisites have raised the standard of living of the textile employee and his family to a way of life unknown in the industry a decade ago.

Does the employee therefore think more of the industry than he did ten years ago?

Chances are that he doesn't.

Industry Has Not Supplied the Facts

The industry has provided him with greater rewards for his labor but, by and large, left him to others for facts, figures, and ideas. Although it is now making an effort, the industry has yet to dissect the misinformation and fill the vacuums through plain talk on subjects of mutual interest.

One of the best means of accomplishing this objective is through employee publications.

Well trained foremen are management's most effective emissaries to the man or woman on the job. The employee publication should never usurp the foreman's position. Of course, there are other good ways in which to talk with employees. Bulletin boards, letters, handbooks, and meetings are examples.

The employee publication, however, is perhaps the most accepted and respected medium available, if published at least once a month.

What can companies in the textile industry do with employee publications?

They can be devoted to chit-chat about Joe and Sally Mae.

They can preach the manage-

YOUR employee publication can be one of your most valuable assets in bridging the channel between management and labor, but it can easily drift into no more importance than a ticket to yesterday's football game.

It can build employee morale, decrease friction, create pride in the company, break down cliches, explain and interpret company policies, and still be interesting—or it can resemble gossip on a country party-telephone line and offer nothing beyond a few personal items, or jokes that may be found in a high school sheet.

Irrespective of which classification it falls in, the employee publication will cost money; although how other people spend their money is their own concern, it would be more fruitful if the expenditure should prove to be a sound investment instead of a total loss.—The Editors.

ment gospel from lofty heights or with a horsewhip.

They can adopt the intimate flavor, used successfully by columnists of the school of "gents' room journalists."

They can put out platitudes and pictures on expensive coated paper.

Or they can report the news.

News Ranks Tops with Employees

Virtually every survey made on employee publications reveals that news of the company is a top item of interest among employees. The Opinion Research Corporation surveyed a number of its clients this summer and found company news the first choice of material among employees. Robert Newcomb, founder of the International Council of Industrial Editors and now a consultant on employee publications, has found in opinion surveys on individual companies that news is first.

In a free country the people refuse to be pushed around. Management can not expect to tell its story and have it believed if the story itself is unworthy of belief. Nothing takes the place of facts. Gossip, sugar coated propaganda, preachments, and horsewhipping will never defeat misinformation or fill vacuums. Frank and sincere factual presentations in words and pictures will.

Defeating Misinformation

If companies in the textile industry are to use employee publications to defeat misinformation and fill vacuums of ignorance through the use of facts, how can a company be sure its publication will accomplish this purpose? The first step is to define the publication. This can be done by writing down on paper what the function of the publication is. Each company will doubtless want to define its own publication, existing or contemplated, but this might serve as a guide:

> *To explain company aims and policies; to promote friendship between the company and its employees as well as among employees themselves; to stimulate the interest and sense of participation of each employee in his work, in his company and in the ways of free men. . . . all through facts.*

The aims and policies of the company are readily explained through facts.

Is it the aim of the company to make a fair profit? State it, explain it, show how profits are profitable for everyone, especially the employee who, but for profits, would lack a job.

Is it the policy of the company to pay fair wages? State the base wage, explain how it is determined, show why the company is risking its money in the hope of getting a good product which will make a profit.

Friendship is getting close to the understanding for which all American industry is in need. A company must deserve to be considered a friend. It must be of sound moral character and proceed from good motives.

The company's group insurance program is a friendly act toward employees. Talk about it factually, about what it did for Joe Smith when he was hurt in that auto accident, about what it did for his little girl when she needed an operation. Avoid posing as the benign corporate father protecting its brood of helpless ones.

Take Employee Into Confidence

When we have truly stimulated interest and a sense of participation in our employees, we will have approached the understanding we seek. One way to start is to take employees into confidence. Run advertising in the employee publication before it appears in trade or consumer magazines and, of course, tell the audience about it. Another is to make a forecast of operations for the coming year, not too detailed but enough of a pattern so an employee knows the general direction he and his company are going.

As Robert Newcomb told the American Management Association this year, "Industry must tell its own story in simple, understandable, believable ways. . . . The first requirement for success is the sincerity and good intent of the company."

After defining the publication, the next step would be to re-examine the format, style, frequency of publication, and personnel of your present employee publication, or determine them if starting a new one. These must be cut to fit each company's needs.

Aids for Employee Publications

One way to get the right cut is to hire a consultant at a fee. That is a good way and probably worth the money. Another way is to be your own consultant with the aid of all the material on the subject of employee publications you can find.

Here is a partial list of good aids on employee publications:

1. Champion Paper and Fiber Company, Hamilton, Ohio—"Stet," the house magazine for house magazine editors; books on "Layout," "Copy," and other phases of edit-

ing employee publications. All this information is provided without charge.

2. S. D. Warren Company, 89 Broad Street, Boston, Mass.—"More Business Through House Organs," a practical manual on all aspects of the production of employee publications. No charge.

3. Metropolitan Life Insurance Company, 1 Madison Avenue, New York, N. Y.—"Employee Magazines," case histories of house organs and "Contents of 325 Employee Magazines," surveys of what house organs contain and a plan for polling employees on what they want in such publications. No charge.

Employee publications are a relatively new device, although there are said to be 5,000 of them now published in this country. Most of them are under ten years old. Some were born during the war. Many have been gossip sheets.

Personals still have a place in employee publications, but they should be news. When Joe Smith buys Sally Mae a soda four days in a row—that's gossip. When Joe Smith marries Sally Mae—that's news.

Company news is, however, the big item. Understandable words, short sentences, writing in familiar language and, most importantly, profuse use of pictures are the tested methods of presenting the story. Personal credit is important, for the man who deserves and receives recognition is the man who is most likely to want to understand you.

The Employee Publication Editor

And now a word about the editors of employee publications. The editor must be qualified for the job if he is to present a creditable product. It is folly to select a man or woman simply because he or she has the time to spare. The publication costs money and some sort of return is expected. If the editor doesn't want the job, then he shouldn't have it.

Some journalistic experience will prove invaluable. Experience on high school or college papers will come in handy, or the selected editor may be given preliminary training on the paper of another textile plant. Just because a nice fellow in the office or supply room is doing a good job, it does not mean that he can run the paper.

Editor is Key Man

The editor of the employee publication is a key man in the organization, and upon him will fall the responsibility of not only ferreting the news, but selecting and editing what finally goes to the employees.

He is more than a necessary cog in the wheel. He is the top sergeant who can speak the language of the men and assist the "brass" in getting a job done willingly and efficiently.

As such he should rate the confidence of the commanding officer.

The employees, through the editor of their publication, are entitled to be posted on company policies and plans before the news reaches the general public. It is not only embarrassing to an editor to discover company policy and planning first in the local newspaper, but it is highly discouraging.

Editorial Help

The editor needs help from topside and in the mill. He will constantly be seeking the guidance and counsel of company officials. To be most effective his contacts with top management should be continuing rather than spasmodic. It is often a good plan to have one such official designated as the person to whom the editor can turn for expression or interpretation of policy, and that person can logically be the personnel director.

There is a limit to the number of stories an editor can get himself. He has to have some time for his main job—editing. He needs the help of plant reporters or other persons to whom he can turn for written material to edit or facts to fashion into copy. The wise editor always gives credit to those who help. Plant reporters deserve all the recognition they can be given. News sources deserve at least an acknowledgment of their help.

Features In Textile Publications

TEXTILE INDUSTRIES magazine recently examined closely many employee publications in the textile field. A summary of the contents of eight of them appears below. The reader can decide for himself if they:

1. Explain company aims and policies.
2. Promote friendship between the company and its employ-

Abstracted and Paraphrased Remarks on Industrial Publications

(Address before Southern Conference on Human Relations in Industry, Blue Ridge, N. C., July, 1947)

By Robert Newcomb

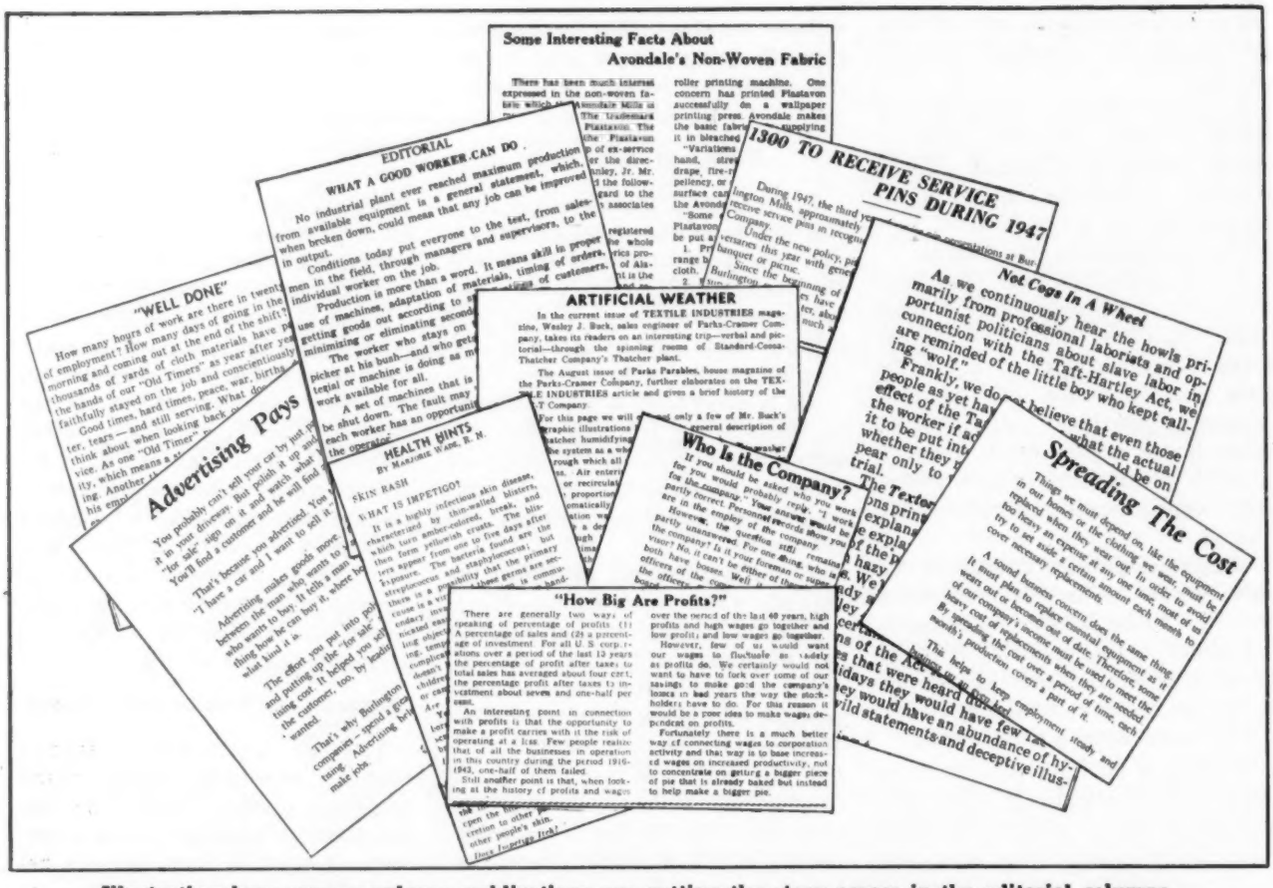
1. *The free enterprise system has not been sold to the working man; there the employee publication has fallen down.*

2. *It is a misconception of management to believe that the reader of an employee publication enjoys only social trivia and assorted keyhole gossip.*

3. *Time and money are wasted when management uses as the measuring stick of journalistic excellence the news that Johnny Zilch of the spinning room is that way about "what" blonde. Names only help make the news.*

4. *Sponsors of the Peeping Tom school of journalism throw away literally millions of dollars a year on chit-chat which never brought a dime's worth of loyalty to any company.*

5. *Executive, staff, and industrial editors have not done a particularly good job of selling free enterprise—union folks have been the industrial and public relations experts.*



Illustrating how some employee publications are getting the story across in the editorial columns.

ees as well as among employees themselves.

3. Stimulate the interest and sense of participation of each employee in his work, in his company, and in the ways of free men.

Publication No. 1. Front page: hospital election for local voters, church society to meet, church delegates selected, nice eating place near plant. Inside: editorial on recreation, home canning program recommendations, baseball news, personals, pastor improves parsonage yard, editorial urging use of heads as well as hands, health hints by the mill nurse.

Publication No. 2: Front page: company sponsors textile school scholarship, ball game lost. Inside: vacations enjoyed, welcome extended to new employees, wedding announcements, letter to speeders, record of last year's auto accidents, personals, photoquiz, new movie schedule, list of baby arrivals.

Publication No. 3. Front page: banquet announced, play announced, smallpox information, request for news, baby picture, picture of mill chorus. Inside: editorials on art of getting along, editorials on smiling, personals, accident record, jokes, observance of special week noted, jokes and more jokes.

Publication No. 4. Front page: high school graduating class photo, editorial on "who is the company" in which is shown that the employees really are in business for themselves, personals, accident record, good housekeeping is essential to safety, notes on being dependable, symphony radio sponsorship, reporter of the month (credit story), photos of summer activities, recreation and fun offered in community building, new product developed by company and how used, household hints, scouts visit Washington, baseball record, midget baseball team practice, swimming classes for children, brief biographies of supervisors under heading "Know Your Overseers."

Publication No. 5. Front page: Old-age retirement and survivors benefit explained (with suggestions on what to do now), veterans entitled to correspondence courses, baseball team picture. Inside: editorial on accidents and what an accident is, personals, mill employee finishes textile school, cartoon emphasizing suggestion system use, photos of girls running knitting machines, candid photo shots, personals, columnist (by employee), comic strip on safety (emphasizing oil and water spots), several photos of employees and what they do in the mill, short story, columnist, outing picture, further tips for the older worker on social security.

Publication No. 6. Front page: deaths, injured, two murders, bible school, church revival, city council to safeguard citizens, the message from top management, baseball announcement. Inside: veterans' information, column on personalities, 30 years ago, library book review, vacation photos, advertisements, personals, golf tournament, sports review, notices.

Publication No. 7. Front page: message from chief executive, facts about a new product, inspection tour, flower prize winner, vote of thanks from board of directors. Inside: editorial on income tax discrimination, editorial on impor-

tance of employees, anniversary shopping guide, personals, women's page, credit for suggestions offered and accepted, household hints, safety from viewpoint of management and employees, national advertising previewed in publication, swimming pool announcement, textile school information, buying bonds, Mother's Day scene, photo of recreation area, financial and statistical report of employees credit union, safety page.

Publication No. 8. Front page: beauty contest. Inside: personals, jokes, Bible facts, baby pictures, births, old photograph, reporter to marry, employee works for year without losing time, baseball news, golf course nears completion, reporters for paper have social.

Survey of Textile Editors

Some interesting and informative facts were disclosed in another TEXTILE INDUSTRIES' survey, this one of editors of textile employee publications.

About the only unanimity among employee editors surveyed on the purpose of the publication is that the benefits gained make the publishing worthwhile. This doesn't mean that the editors are in doubt as to the function of their publications, far from it. It does mean, however, that publications are being used in many divergent ways. A re-examination of many existing efforts might produce better focus on what the company's employee publication is supposed to do.

Most employee publications do not take paid advertising, according to their editors.

One healthy sign reported by the editors is that they edit. Apparently they receive a reasonably free hand from topside, although a superior often checks the final copy before printing. Almost all of them receive outside help from employee-reporters or through key news sources in their companies. And almost all editors employ an informal style of writing.

Costs varied widely in the survey, but most of the employee publications are printed on a job basis with the printer providing the paper.

All the editors said that their publications are distributed free. Some of the publications are handed out at the mill, some at pay time, and some are mailed to homes. A few editors have civic leaders, customers, and competitors on their mailing lists.

All the editors use pictures and most of them wish they could get more of them. The pictures are made both by commercial photographers on call and by mill amateurs, sometimes by the editor himself.

The textile industry can hope to remove misinformation and fill the vacuums of ignorance among its own people in proportion to the effort individual companies make toward understanding.

And employee publications are the first line in reaching our own people effectively—by reporting the news.

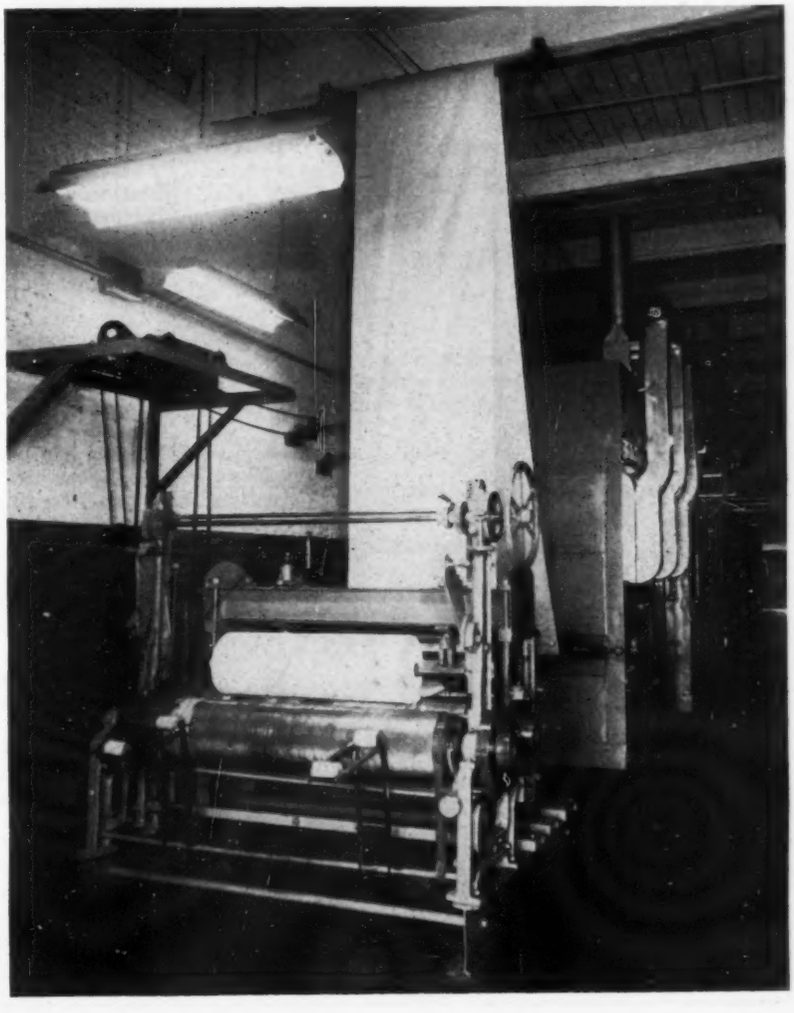
From Bale to Bolt in 90 Seconds

Shown below is the machine that converts cotton and rayon, bonded by synthetic resins, into "Plastavon," a direct process bonded web fabric recently developed by Avondale Mills at its Sylacauga, Ala., plant.

It is reported that the conversion process requires only 90 seconds.

Containing no yarn and requiring no weaving, the fabric is made in one continuous process on equipment designed by Cash M. Stanley, Jr., of Avondale, who perfected the new fabric.

Plastavon can be produced in a complete range of tints and colors. Strength of some styles is said to be comparable to that of woven fabrics of equal weight.



Defects in Rayon Fabrics

By RENE BOUVET
American Viscose Corporation

It is the purpose to present here, in condensed form, the more important defects found in rayon fabrics, and to indicate their causes. It is felt desirable to confine this table to the defects as they may occur in preliminary and weaving operations. The point of origin of the defect is set forth, thereby inferring the corrective measures.

TYPE OF DEFECT	CAUSES
Broken Warp Ends	Weak yarn Damaged drop wires, heddles, or reed Rough shuttle Poor sizing
Soiled Warp Ends	Lack of protection from oil splashings Perspiration from operators' hands (for corrective measure, supply powder) Dirty hands Dirty equipment
Bruised or Chafed Ends	Rough drop wire, heddle, reed, shuttle, or center fork Stationary reed Harness hooks out of line Improper timing of pick, causing shuttle to enter shed before it is open, or to drag coming out of shed
Warp Streaks	Faulty slashing, undesirable sizing ingredients Hard size Weak reed Misreed Chafed ends caused by rough heddles Yarn mixtures Whenever tint is used, lack of fugitiveness may well be implicated Strained yarn in warping
Overbeaten Cloth (Tear Drops)	Too much size Too light warp tension Lack of proper humidity
Starting Marks (Tight or Loose)	Improper loom start Defective let-off or take-up Faulty clutch Loom allowed to stand long with open shed Warp stretching due to long standing Improper setting of whip roll Brake failing to stop loom before reed hits cloth
Soiled Knots	Soiled drop wire, heddle or reed Sticky size Lack of air space in reed

TYPE OF DEFECT	CAUSES
Broken Picks	Weak yarn Poor quills—bad bunch, misplaced knots in course of quilling Cut guides Excessive shuttle tension Battery hand not unwinding filling properly Shuttle not boxing correctly Rough shuttle boxes Improper picking Filling fork cutting filling Filling fork improperly set
Shiners	Excessive processing tension Excessive shuttle tension Catching on bunch Misplaced knots on cops Catching on loom part Misaligned shuttle spindle Harness timed improperly
Bruised or Chafed Picks	Damaged by traverse wheel in copping Mishandled cops Rough feeler or center fork Rough box—faulty shuttle—rough guide Shuttle riding filling in shuttle box
Loopy-Loose Filling	Poor copping Too much pick Lack of tension in shuttle Maladjusted center fork Poor shuttle checking
Soiled Filling	Soiled in copping Lack of protection from oil splashes Dirty boxes Dirty race plate covering or no covering
Filling Bands	Yarn mixtures Irregular tension in copping Uneven steaming treatment Faulty throwing
Shuttle Marks	Faulty shuttle Poor picker Too much pick Misdirected flight Improper shed Lack of shuttle race covering Worn-out shuttle race covering Picker not aligned with shuttle
Uneven Cloth	Faulty let-off or take-up Slipping clutch Uneven sizing Uneven weave Uneven raising of harness shafts
Temple Marks	Eccentric temple rolls Too much pressure Wrong type temple rolls used
Creases	Lack of proper alignment among take-up rollers Tight selvage
Tight Selvage	Undesirable construction Improper weave or inadequate tension Faulty warp
Weak Cloth	Damaged by reed Take-up covering Overstretched in slashing
Mispick	Improper handling by weaver Head motion or pattern chain failure

Making "Cut Top"

Two gilling processes and a cutting operation are eliminated by use of this method.

CUT TOP is a popular raw material used in combination with other fibers on the woolen system of spinning. Recently cut top has been used in special types of worsted yarns spun on a modified system of cotton yarn manufacturing.

The preparation of cut top is relatively simple, and involves a cutting machine which cuts the top to predetermined lengths. However, since this type of routine requires an extra operation in the general system of top manufacturing, an additional cost is involved in processing this product. Therefore, in order to reduce unit costs and at the same time manufacture a product similar to cut top, a short method was devised to eliminate several conventional steps.

When top sliver is cut to any random length, it loses its identity and becomes a mass of individualized fibers in a state of disorder. It seems logical to attempt the elimination of the top cutting and finishing operations by selecting and separating the fibers in the combing process.

The most popular staple lengths in demand for cut top are between 1½ and 3 inches. Processing fibers of these lengths requires a French comb. It was on this particular type of combing machine that the ultimate changes were made after experiments were conducted.

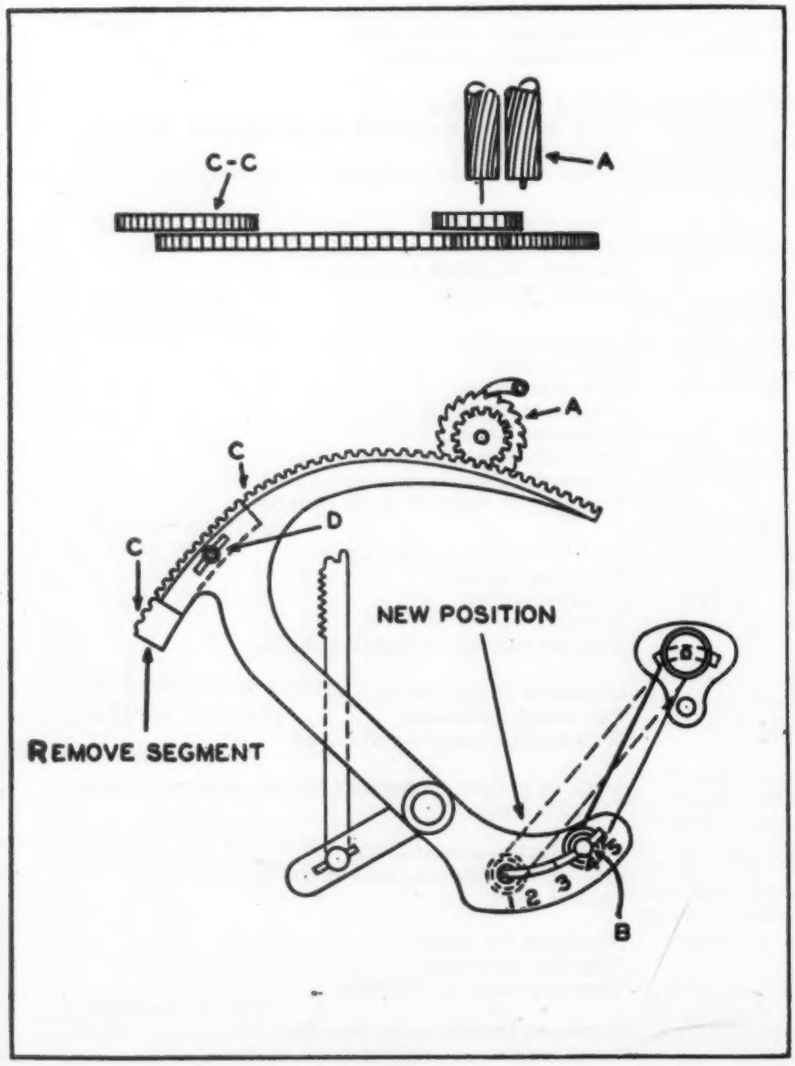


FIGURE I.

Changes on Comb

To adjust the comb so that it will deliver what is known as "open top," the following steps are necessary:

(1) Referring to Fig. 1, the degree and direction of rotation of the drawing-off rollers (A) are controlled entirely by the position of the stud (B) located in the slot with divisions marked 1, 2, 3, 4, and 5. In this case maximum motion is desired from the quadrant arrangement so the stud (B) is moved to the extreme position No. 1 (Fig. 1.)

(2) In order to eliminate piecing-up of the combed fibers, the recoil or backward movement of the detaching or drawing-off rollers must be stopped. This is accomplished by removing the small toothed segment (C-C) which is attached to the large toothed quadrant by the stud (D). (Fig. 1.)

(3) The action of the sword (E) and counter sword (F) is relatively unimportant with short wools. Since no tails of the drawn-off fiber tufts are to be stretched out on the drawing apron for uniting with the heads of the next tufts, these swords should be made inoperative by decreasing their respective strokes, or by taking them out. (Fig. 2.)

(4) There is no necessity for condensing, so all parts such as the calender rolls (G), trumpet (H), presser roll (I), and

on the French Comb

By A SPECIAL CORRESPONDENT

controlling levers and studs should be taken off the machine. (Fig. 2.)

(5) Directly in front of the combing machine, place a rectangular shaped box to receive the combed fibers as they are delivered by the detaching rollers.

(6) In place of the condensing parts and at the delivery end of the apron, place a flat galvanized plate extending from one side of the frame to the other. This acts as a chute for the fibers to slide down into the receiving box. (Fig. 2.)

(7) Because of the accelerated motion of the detaching rollers, the apron (J) should be tightened up a little more than under ordinary conditions, and all worn ones should be replaced if posble. The top comb should be checked to see that it is not too close to the apron.

Operation

Stated briefly, the two most important adjustments are the elimination of the piecing-up motion, and the increase of the detaching roll speed. A combination of these adjustments really form the underlying principle of the entire procedure. As the detaching rollers start their rapid forward motion, the fringe of fibers, being drawn through the top comb and detached from the nipping jaws, is delivered forward with such force that most of the fibers clear the apron and are deposited in the receiving box located directly in front of the comb. Those fibers not clearing the apron, drop on to the metal chute provided for the purpose, from which point they slide into the box.

An operation of this kind does not require any piecing-up, and it can be readily seen that the recoiling mechanism is useless. It should be noted that the application of this idea on the French comb only changes the physical form of the delivered fibers. In no manner is the normal operating cycle or the production of the machine affected in any way.

Advantages

There is little need of processing a long fiber (say five or six inches in length) through a multitude of operations, and then cutting and reducing it to short lengths of 1½, 2, or 3 inches. In addition, this cutting procedure introduces a definite amount of short fibers due to the randomized position of both the long and short fibers, resulting in the shearing of groups of short fibers in half and the cutting of only the tips of the long fibers. Proof of this fact can be seen by examining fiber array diagrams of cut fiber. As a result of this cutting operation, it is evident that the fiber has been shortened.

"Open top," on the other hand, is a virgin fiber in all respects since it is just as much a product of the French comb as the finished top itself. The fiber distribution is normal and comparable with arrays made from standard top. In so far as fiber length is concerned it is just as simple to make open top from a short 1½-inch Texas cotton as it is from a 4-inch Australian wool. At any rate, by the proper selection of length and fineness characteristics in the raw material, this short method enables fiber length to automatically become an integral part of the regular manufacturing routine instead of necessitating extra operational work.

From the standpoint of costs, at least two gilling processes and one cutting operation can be eliminated inasmuch as the product manufactured with this method is considered finished at the comber.

To place the combers in operation, an experienced crew can make these changes and adjustments quickly. For small amounts, a few machines can be converted to open top without disturbing the remaining line of production.

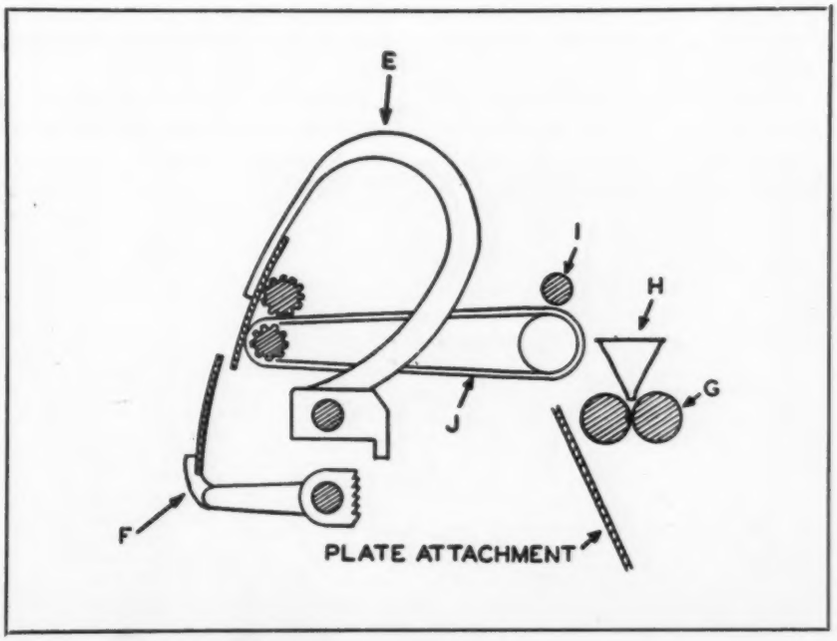


FIGURE 2.

Improve Twisting Operations By Laboratory Control

By HORACE L. PRATT

IT IS REALIZED that laboratory control is not a cure-all for all of the problems in the twister room, yet the testing laboratory can render a real service to the twisting department. The tests described in this article are those which are made on regular plied cotton yarn, utilizing a minimum amount of equipment.

IN MILLS making plied yarns, either for sale or for their own weaving, or in mills making cord, the twister room plays an important part. The twist and the elongation of the yarn are often essential factors in the subsequent processes. The efficiency of the twister room has a direct bearing on the efficency of the departments following the twisting process, especially from the standpoint of the amount of first quality yarn produced in proportion to the defective yarn made.

For example, suppose the plied yarn is going into filling for a 500-yard roll of belting duck, and a singling is made, and is run in the cloth—the result is a substandard roll. The entire roll of five hundred yards of expensive duck must be sold at a reduction in price, even though the singling may have been in only one bobbin. Other defects that may give trouble in other departments are incorrect lengths, excessive ends down resulting in pieces, gouts or slubs, oil, wrong twist, cut yarn, etc.

Although it is not claimed that checking and testing by the control laboratory will cure all of the ills of the twister room, we do believe that the laboratory can render a real service to this department and it is the purpose of this article to discuss this phase of the work of the laboratory.

Control Testing of Stock Before Reaching Twister Room

In order that the twister room may function at its best, it is obvious that the stock in process before reaching the twister room must be subject to sufficient control to assure that the single yarn delivered to this department will be of the quality necessary to meet all requirements. This includes packaging of the yarn as well as the quality of the yarn itself.

Following is a list of some of the tests which may be made on the stock in process prior to twisting:

1. On the raw cotton
   (a) Moisture test
   (b) Fiber strength test
   (c) Nep count
2. Picking
   (a) Lap meter test
3. Carding
   (a) Sliver weight control
   (b) Sliver linear regularity
   (c) Flat strips test
   (d) Nep count
4. Drawing
   (a) Drawing sliver weight control
   (b) Drawing sliver linear regularity
5. Roving
   (a) Roving size test
   (b) Belger roving quality test
6. Spinning
   (a) Yarn size and breaking strength test
   (b) Single yarn twist test
   (c) Spinning ends-down test

The effectiveness of the foregoing tests depends upon several factors, among which are the reliability of the tests, the frequency of the tests, the tolerances permitted, and how well the reports of sub-standard work are followed up by the department foremen.

The process immediately preceding twisting is spooling, or in some cases, winding. This process is not usually subject to laboratory control, and in fact we believe that in many mills about the only time the spooler room is noticed is when several spool-

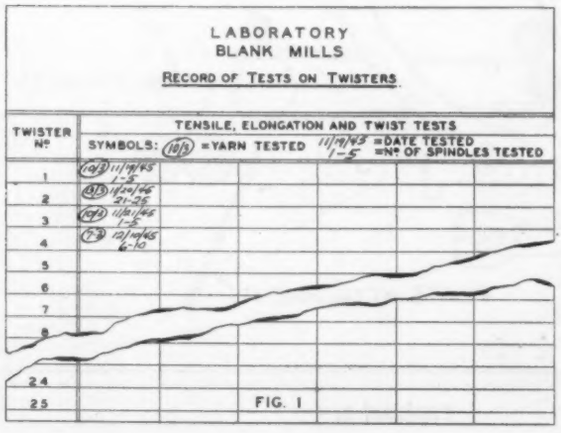


Fig. 1. Record of Tests on Twisters. A form such as this may be used in the laboratory to assist the director in ascertaining whether all frames and spindles are being tested.

er tenders stay out and the yarn begins to pile up. Even if nothing more is done in the spooling process than to wind the yarn properly so that it may be unwound on the twisters without tangling or breaking, then any reasonable amount of supervision is well repaid. Winding, however, is not the only function of spooling. If the spooler guides are properly set an appreciable amount of gouts and other defects in the yarn will be removed. It follows, therefore, that the spooling process should have close attention and supervision to insure the best possible work.

Laboratory Tests—Twister Room

The laboratory tests which we shall undertake to describe in this article are those which are to be made on regular plied cotton yarn. The tests on cord would have to be treated in a separate article. Following are the tests which may be made with a minimum amount of equipment and with regular, skilled laboratory technicians:

1. Size or number of the plied yarn
2. Single-strand tensile strength and elongation
3. Twist of the plied yarn
4. Ends-down test

The following tests might be made but would call for additional equipment and more highly trained personnel and will not be included in this article:

1. Size, or number of the singles within the plies
2. Twist of the singles within the plies
3. Elongation of the individual ends within the plies

Fig. 2. Ticket for Plied Yarn. Sample form for use by laboratory assistant in securing data at the twister.

LABORATORY
BLANK MILLS

TICKET FOR PLIED YARN

TWISTER Nº	14	DIAMETER FRONT ROLL	1¼"
MAKE	Blank	DIA. RINGS	4½"
YARN Nº AND PLY	10/3	WARP / FILLING	
STOCK	#1	TWIST MULTIPLE	3.50
TWIST CONSTANT	200	TWIST GEAR	31
SPINDLES Nº	1-5	DIA. BOBBINS OF YARN	2 15/16
FRONT ROLL R.P.M.	127	CYLINDER R.P.M.	843

DATE 11/19/45 SIGNATURE R Roe

FIG. 2

Equipment Needed

The equipment needed for making the tests that we are discussing in this article is as follows:

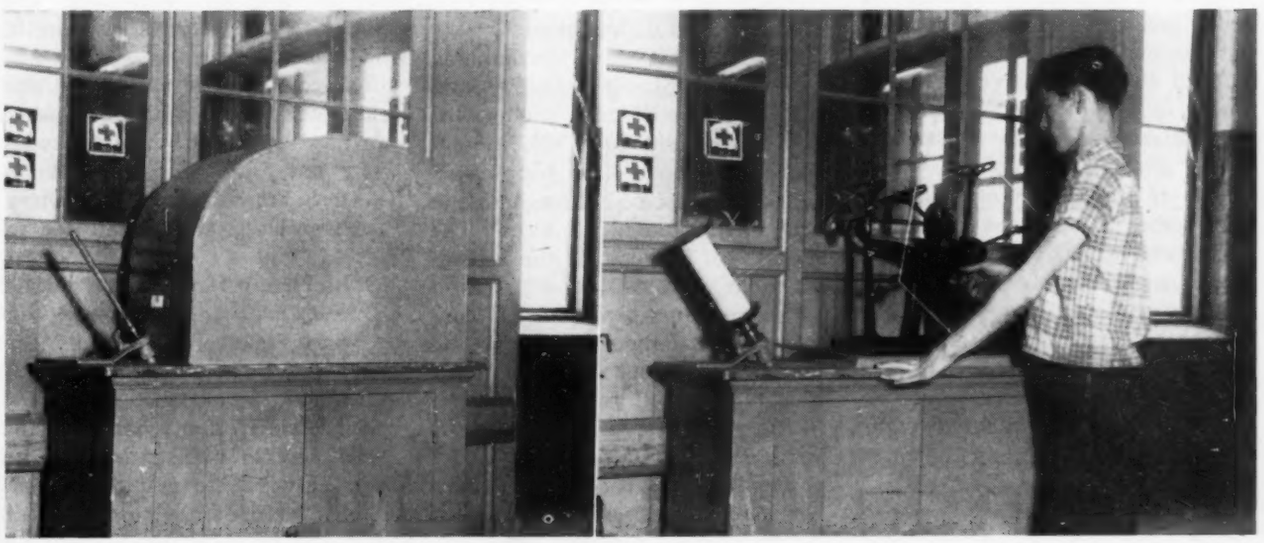
1. Yarn reel (to be located in the twister room)
2. Grain scales
3. Twist tester
4. Inclined plane tester and charts (other types of single strand testers may be used)
5. Tachometer
6. Outside calipers and rule
7. Forms for securing information at the twister, and forms for reporting size, tensile strength, elongation, twist, and ends-down tests.

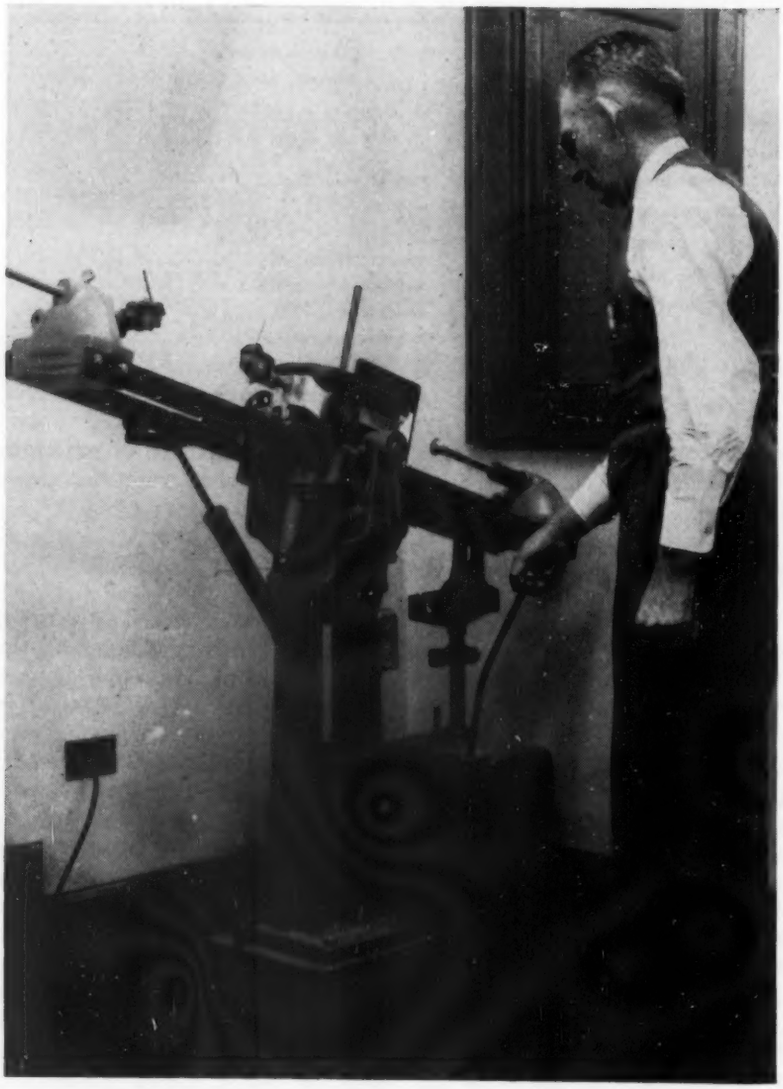
Testing Procedure

To prevent having to transport the heavy twister bobbins to the aboratory for testing, we suggest having the yarn reel located in the twister room, having the yarn reeled there, and the skeins brought to the laboratory, where they may be conditioned and the tests made. The accompanying photos show how one mill solved the problem of locating the reel and protecting it from damage.

A definite schedule should be worked out to rotate the tests so that all the frames will be tested and eventually all the spindles will be tested. Fig. 1 shows a form which may be used for recording the data on the frames.

To avoid transporting the twister bobbins to the laboratory, a yarn reel should be located in the twister room. With this arrangement, the yarn can be reeled there and the skeins then carried to the laboratory for conditioning and testing. In photo at left, reel is located just outside office of overseer of twisting; note metal cover that is used to protect it from damage when it is not in use. At right, laboratory assistant is preparing skeins for delivery to laboratory for testing.





The author is shown here operating the inclined plane tester. This instrument is used in making single strand tensile strength and elongation tests.

spindles, and yarn tested, and Fig. 2 is an illustration of the tickets to be used to identify the yarn, and for securing the necessary information at the frame.

With the yarn tickets, a tachometer, and a piece of crayon, the technician will go to the twister frame selected for the test. Inasmuch as it will be necessary in some cases to open the head of the frame to take the cylinder speed, it is advisable to have someone from the twister room assist the technician. This individual, possibly a section man, may also assist in doffing the test bobbins, which will be numbered with crayon to correspond to the number of the spindles. The yarn is to be doffed at as nearly one-half full as possible. The front roll speed, as well as the cylinder speed, is to be taken at this point.

The yarn will be taken to the reel, the diameter of the bobbins measured with the calipers and rule, and two 30-yard skeins will be reeled from each bobbin and properly tagged. The bobbins of yarn will then be returned to the frame and handled as pieces. The skeins will be taken to the laboratory. These skeins should be placed on an umbrella type rack for conditioning, and should be allowed to remain on the rack for at least four hours—longer, if possible.

The next step is to weigh the yarn and calculate the unit size and the average single yarn number. A constant for 30 yards may be worked out as follows:

(a)

$$\frac{30 \text{ yds.} \times 7000 \text{ grs.}}{(y) \text{ grs.} \times 840 \times (z) \text{ counts}} = 1$$

(b)

$$(y) \times (z) = \frac{30 \times 7000}{840} = 250$$

It can be seen that 250 divided by the weight in grains of 30 yards of the ply yarn will give the counts (unit size). For all practical purposes the average single yarn size may be obtained by multiplying the unit size by the ply.

Tensile and Elongation Test

After weighing the yarn, the skeins will be replaced on the spokes of the conditioning rack and the rack carried to the single-strand tester. We use the inclined plane tester. The size best suited for the yarn being tested in our case is the IP-4. Other types of single strand testers may be used if desired. Select the range of weights suitable for the size of yarn being tested. In our opinion the weights are about right when the yarn breaks with the pen on the upper half of the chart, but not much over three-fourths of the distance from the zero mark to the top of the chart.

If a good average is desired we suggest making five breaks from each of the 30-yard skeins. The pen holder may be moved to space the lines on the chart to facilitate the evaluation of the results. Fig. 3 shows a form which may be used for recording the data on the size, tensile strength, and elongation.

The conditioning rack, with the remainder of the skeins of yarn, can now be taken to the twist tester and the twist tests made. The tests may be recorded on a form similar to that illustrated in Fig. 4.

With the information obtained at the twister and recorded on the yarn ticket (Fig. 2), and the twist test, a theoretical twist constant may be worked out as a check against the twist constant as figured from the gears and the ratio of whorl to cylinder speed. A form for use in calcuating these

LABORATORY
BLANK MILLS
YARN SIZE AND SINGLE STRAND BREAKAGE

TWISTER Nº														
TYPE OF TWISTER														
RING DIAMETER														
THREAD STYLE														
1	STANDARD UNIT SIZE													
	ACTUAL UNIT SIZE		1											
	TWIST MULTIPLE		2											
2	TOTAL													
3	AVERAGE													
	WEIGHT USED ON TESTER POUNDS													
	TENSILE STRENGTH AND ELONGATION	BREAK LBS.	ELONG %	BREAK LBS.	ELONG %	BREAK LBS.	ELONG %	BREAK LBS.	ELONG %	BREAK LBS.	ELONG %			
	1													
	2													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
4	AVERAGE BREAK													
5	STANDARD BREAK AND ELONGATION													

DATE_____ FIG. 3 SIGNATURE_____

LABORATORY
BLANK MILLS
TWIST OF THE PLIED YARN

TWISTER Nº														
TYPE OF TWISTER														
RING DIAMETER (INCHES)														
THREAD STYLE—WARP OR FILLING														
STOCK Nº_____ STAND. UNIT SIZE_____														
	TURNS PER INCH	T.P.I.	CRIMP %	T.P.I.	CRIMP %	T.P.I.	CRIMP %	T.P.I.	CRIMP %	T.P.I.	CRIMP %	T.P.I.	CRIMP %	
	ELONGATION OR CONTRACTION													
	TWIST MULTIPLE	1												
		2												
		3												
		4												
		5												
		6												
		7												
		8												
		9												
		10												
1	TOTAL													
2	AVERAGE PER INCH													
3	STANDARD													

*MARK GAIN IN LENGTH THROUGH UNTWISTING (ELONGATION OF SINGLE YARN THROUGH PLYING) PLUS
MARK LOSS IN LENGTH THROUGH UNTWISTING (CONTRACTION OF SINGLE YARN THROUGH PLYING) MINUS

DATE_____ FIG. 4 SIGNATURE_____

Left, Fig. 3. Yarn Size and Single Strand Breakage Form. A form such as this is suggested for reporting plied yarn unit size, single strand tensile strength, and elongation.

Above, Fig. 4. Twist of the Plied Yarn. Form recommended for maintaining record of twist in plied yarns.

constants is shown in Fig. 5, and we have included the explanatory information on the form itself, rather than in the text of the article.

Plied Yarn Tensile Strength and Elongation Standards

Each mill will probably have to work out its own standards for tensile strength and elongation of its plied yarns. We are illustrating in Fig. 6 a sample sheet from a loose leaf book, which may be used for such a record. In the event the twist multiple is changed we suggest starting a new record. After a time, comparisons of the tensile strength and elongation with the various twist multiples may be made. After sufficient data have been accumulated it may be possible to predict the effect of a change in twist multiple on the tensile strength and elongation of the plied yarn.

Ends-Down Test

Although studies are more frequently made in spinning, as to the causes of ends down, than in twisting, we feel that the time spent in making such studies in the twister room will be well repaid. Naturally such a test will include singlings and doublings and whether or not the ends actually break down. In the case of 2-ply yarn, a singling will not run inasmuch as the plied yarn is usually twisted in the opposite direction to the twist in the single yarn, so when one end breaks the other end immediately becomes untwisted and comes down.

The question of ends down on the twisters is important to the twister room itself. The number

COMPARATIVE DATA ON TWIST CONSTANTS FOR RING TWISTERS

MAKE OF TWISTER Blank DIA. RINGS 4½" DIA. FRONT ROLL 1¼" CIR. FRONT ROLL 3.9270"
YARN Nº AND PLY 10/2 WARP & FILLING TWIST MULTIPLE 3.50 TWIST CONSTANT 600 TWIST GEAR 31 STD. T.P.I. 6.32

1 DATE	2 TWISTER Nº	3 FRONT ROLL R.P.M.	4 DELIVERY OF FRONT ROLL PER MIN. (INCHES)	5 CYLINDER R.P.M.	6 CIR. OF YARN AT ½FULL (INCHES)	7 ACTUAL T.P.I.	8 TRAVELER LAG R.P.M.	9 THEORETICAL NET SPIND. SPEED R.P.M.	10 THEORETICAL TOTAL SPIND. SPEED R.P.M.	11 THEORETICAL RATIO OF WHIRL TO CYLINDER	12 TWIST CONSTANT
11/6/45	11	131	514.44	839	9.229	6.14	55.75	3158.66	3214.41	3.76	190.34
11/9/45	10	128	502.66	844	8.443	6.29	59.54	3161.73	3221.27	3.75	196.99
11/12/45	9	129	506.58	849	8.639	6.24	58.64	3161.06	3219.70	3.72	193.44
11/6/45	12	128	502.66	846	8.639	6.16	58.18	3096.39	3154.57	3.66	190.96
11/9/45	14	127	498.73	843	9.229	6.23	54.05	3107.69	3161.14	3.69	193.13

FIG. 5

Above, Fig. 5. Comparative Data on Twist Constants for Ring Twisters. This form, which has been worked out in some detail, may be used for comparing the twist constant (obtained by actual tests) with the calculated constant.

Below, Fig. 6. Record of Single Strand and Tensile Strength and Twist Tests. From examination of this form, it is obvious that it is used as a history of the various tests made on plied yarns. Such a form is helpful for comparison purposes in the event the twist multiple is changed.

RECORD OF SINGLE STRAND TENSILE STRENGTH AND TWIST TESTS

YARN Nº AND PLY_____ TYPE OF TWISTER_____ DIA. RINGS_____ DIA. FRONT ROLL_____
TWIST MULTIPLE_____

DATE	FR. Nº	TYPE OF PACKAGE	ACTUAL SINGLE YARN Nº AND PLY	BREAK IN POUNDS	% ELONG.	T.P.I.	DATE	FR. Nº	TYPE OF PACKAGE	ACTUAL SINGLE YARN Nº AND PLY	BREAK IN POUNDS	% ELONG.	T.P.I.

FIG. 6

of ends down affects the work load of the twister tenders. Ends which come down and lap up cause waste. Singlings and doublings are also a source of waste. Idle spindles increase the twisting cost. However, the problems created by excessive ends down are not confined to the twister room, but extend to the departments following the twisting.

Pieces Are Troublesome

Chief among the difficulties caused by ends down in the twister room is that of pieces. When an end breaks on the twister it is customary in many mills to break down the adjacent ends, then to replace all three of the pieces with empty bobbins. The ends are then started, and as a result three more pieces are made, making six in all.

These pieces must be handled in the next department. This may involve splicing, an expensive operation, or knotting and respooling, which, while not so costly as splicing, adds to the cost of the yarn. Sometimes the pieces are creeled directly in the beamers and taken out at the cut-marks, and the residue on the bobbins either put in waste or reworked. In any case, the pieces are a source of trouble and expense, as well as of loose ends and other bad work.

We suggest that all possible information as to the causes of ends down be obtained so that appropriate remedies may be taken to reduce the number of ends down to a minimum. It is obvious that the function of the laboratory is to point out the trouble and to furnish the twister room with an analysis of the various factors causing ends down, but it is the responsibility of the management of the twister room to take the necessary corrective measures.

Laboratory Findings Helpful to Management

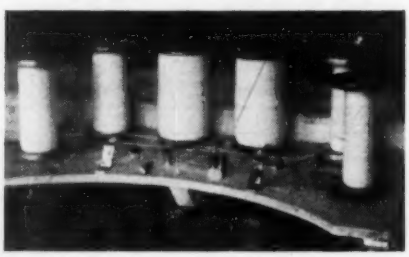
We think the management of the mill, on the other hand, would most likely be interested in the information secured from studies by the laboratory on single-strand tensile strength and elongation tests, and twist tests, as these data would be valuable aids in determining the correct twist multiple. As an increase in the twist slows the front roll and decreases the production, management is interested in finding out the lowest possible twist which may be run to maintain the quality of the yarn necessary to meet specifications.

Laboratory control testing cannot alone achieve all of the objectives outlined, but coupled with good supervision should certainly improve the performance of this important department.

Above

Pieces created by ends down in the twister room are troublesome and expensive. Here an operative is splicing plied yarns on a machine that is used for yarns of 6-ply and above.

Below, close-up of a device used for splicing 4 and 5-ply yarns in a duck mill. Splicing of yarns of this type really consists of splitting the yarn with an instrument resembling an awl. This operation pushes the twist back from the ends, the separated strands being held in place by springs, then tying by the operative of small knots, scattered as far apart as possible. The twist is then allowed to run back in and the "spliced knot" is waxed.



Computing

By RAY B. SLAGLE*

MANY HOURS are wasted by some procedures in keeping overtime production separate in order to compute the overtime premium pay. Other methods for computing the overtime premium have resulted in a great number of clerical computation errors.

The accompanying Overtime Excess Wage Calculation Chart is the result of establishing a percentage factor of the overtime.

This factor is the "premium percentage" that the overtime hours is to the total actual hours worked. The "premium amount" is arrived at by multiplying the gross wages (actual production × piece work rates) by the "premium percentage." The resulting figure is the overtime premium.

Payroll clerks can further streamline their operation by applying the "premium percentage" factor to frequently occurring gross wage amounts and thereby produce a complete table with prepared overtime figures for most of the payroll.

The complete table would show: Hours worked, overtime hours, excess constant (premium percentage), gross earnings (regular), overtime premium amount, and total gross earnings.

Where punch card systems are employed, master group extension cards can be set up with the factors enumerated above and the overtime premium and total gross earnings intersperse gang punched into the employee earnings cards. Automatic controls for proof

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Overtime for Piece Workers

Establishment of a percentage factor of the overtime is basis for preparation of a chart for easy computation of overtime premium

would be available as a by-product.

For other mechanical extension machines, cards with similar hours should be sorted together before calculating. It would then be possible to set the "premium percentage" as the fixed figure and multiply by the gross amount. This method would require only one changing factor and speed up calculations. Controls could be easily established by this method for proof of calculations.

The chart below was prepared under the assumption that overtime started at 40 hours. A similar chart can be made to fit any given set of conditions.

Hours Worked	Over-time	Excess Constant	Hours Worked	Over-time	Excess Constant	Hours Worked	Over-time	Excess Constant
40.00	.00	.0000	44.	4.	.0455	48.	8.	.0833
40.1	.1	.0013	44.1	4.1	.0465	48.1	8.1	.0842
40.2	.2	.0025	44.2	4.2	.0475	48.2	8.2	.0851
40.3	.3	.0038	44.3	4.3	.0485	48.3	8.3	.0859
40.4	.4	.0050	44.4	4.4	.0495	48.4	8.4	.0868
40.5	.5	.0062	44.5	4.5	.0506	48.5	8.5	.0876
40.6	.6	.0074	44.6	4.6	.0516	48.6	8.6	.0885
40.7	.7	.0086	44.7	4.7	.0526	48.7	8.7	.0893
40.8	.8	.0098	44.8	4.8	.0536	48.8	8.8	.0902
40.9	.9	.0110	44.9	4.9	.0546	48.9	8.9	.0910
41.	1.	.0122	45.	5.	.0556	49.	9.	.0918
41.1	1.1	.0134	45.1	5.1	.0565	49.1	9.1	.0927
41.2	1.2	.0146	45.2	5.2	.0575	49.2	9.2	.0935
41.3	1.3	.0157	45.3	5.3	.0585	49.3	9.3	.0943
41.4	1.4	.0169	45.4	5.4	.0595	49.4	9.4	.0951
41.5	1.5	.0181	45.5	5.5	.0604	49.5	9.5	.0960
41.6	1.6	.0192	45.6	5.6	.0614	49.6	9.6	.0968
41.7	1.7	.0204	45.7	5.7	.0624	49.7	9.7	.0976
41.8	1.8	.0215	45.8	5.8	.0633	49.8	9.8	.0984
41.9	1.9	.0227	45.9	5.9	.0643	49.9	9.9	.0992
42.	2.	.0238	46.	6.	.0652	50.	10.	.1000
42.1	2.1	.0249	46.1	6.1	.0662	50.1	10.1	.1008
42.2	2.2	.0261	46.2	6.2	.0671	50.2	10.2	.1016
42.3	2.3	.0272	46.3	6.3	.0680	50.3	10.3	.1024
42.4	2.4	.0283	46.4	6.4	.0690	50.4	10.4	.1032
42.5	2.5	.0294	46.5	6.5	.0699	50.5	10.5	.1040
42.6	2.6	.0305	46.6	6.6	.0708	50.6	10.6	.1047
42.7	2.7	.0316	46.7	6.7	.0717	50.7	10.7	.1055
42.8	2.8	.0327	46.8	6.8	.0726	50.8	10.8	.1063
42.9	2.9	.0338	46.9	6.9	.0736	50.9	10.9	.1071
43.	3.	.0349	47.	7.	.0745	51.	11.	.1078
43.1	3.1	.0360	47.1	7.1	.0754	51.1	11.1	.1086
43.2	3.2	.0370	47.2	7.2	.0763	51.2	11.2	.1094
43.3	3.3	.0381	47.3	7.3	.0772	51.3	11.3	.1101
43.4	3.4	.0392	47.4	7.4	.0781	51.4	11.4	.1109
43.5	3.5	.0402	47.5	7.5	.0789	51.5	11.5	.1117
43.6	3.6	.0413	47.6	7.6	.0798	51.6	11.6	.1124
43.7	3.7	.0423	47.7	7.7	.0807	51.7	11.7	.1132
43.8	3.8	.0434	47.8	7.8	.0816	51.8	11.8	.1139
43.9	3.9	.0444	47.9	7.9	.0825	51.9	11.9	.1146
						52.	12.	.1154
						52.5	12.5	.1190
						53.	13.	.1226
						53.5	13.5	.1262
						54.	14.	.1296
						54.5	14.5	.1330
						55.	15.	.1364
						55.5	15.5	.1396
						56.	16.	.1429

OVERTIME EXCESS WAGES
CALCULATION CHART.

GROSS WAGES AT REGULAR RATE X CONSTANT
EQUALS EXCESS OVERTIME WAGES.

Why Individual Fabric Costs?

By E. G. FIELD
E. G. Field & Associates, Atlanta

A SIMILAR article under the same title and by the same author appeared in the May, 1929, issue of this magazine. It is interesting to note that the same general relationship exists today as then with regard to cost of conversion, except that today the selection for profit possibilities is much greater than before.

DURING the recent period of operating under OPA ceiling prices, some mill managers discontinued their interest in individual fabric costs. The original ceilings were established relative to market prices then in effect. Afterwards it was difficult to obtain changes in selling prices as between fabrics. Attention was given to raising the ceiling as a whole for specific changes in certain cost elements, such as cotton and labor.

Mills with knowledge of individual fabric costs were in position to change production over to making fabrics for sales that could be made with more profit. This inclined manufacturers to make specialized fabrics on which more price could be obtained for similar work. Since then, there has been a change in the desire for certain fabrics, and in recent months many mills have found it necessary or desirable to change the production over to other fabrics now in more demand.

At this time mill managers have an opportunity to use individual fabric costs very effectively, providing they are operating the mills to make the most profit available from use of the mill equipment. If mills are committed to make certain fabrics for use by other divisions, corporations, or outlets, then the mill management may not be able to change production to more profitable lines. In such case the mill may not be concerned with individual fabric costs and profits.

There are many mill managers who seem more interested in showing lower average costs of production and they keep statistical averages by weeks, months, etc. However, if their loom schedule changes, the change in average cost may have been affected more by the change in product than by the effectiveness of operation. To what extent can the average cost be affected?

Almost 20 years ago in the May 1929 issue of this magazine, there was published an article by the author under the same title as this one. On Page 742 thereof a significant statement was made concerning the cost of conversion or cost over cotton, as follows: "The costs may range to a high that is *two* to *three* times the lowest." That observation was made from data taken from three different mills and over 500 items.

TABLE I

	Yards Per Pound	Cost per Pound Exclusive of Cotton
	1.04	18.89c
	1.08	18.57
	1.18	24.17
	1.20	20.02
	1.32	20.04
	1.44	22.19
	1.46	18.86
	1.43	19.53
	1.63	24.04
	1.65	30.49
	1.72	22.98
	1.77	19.90
	1.79	22.59
	1.86	30.41
	2.00	24.17
	2.11	17.33
	2.30	15.40
	2.56	20.47
	2.66	19.05
High	2.66	30.49
Low	1.04	15.40
High/Low	2.56	1.98

Selection for Profits

With the increase in costs today over those of prewar years, it is interesting to note that the same general relationship still exists. But today, the selection for profit possibilities is much greater than before, as will be further explained.

In a single mill, a recent survey of the profit possibilities included the examination of 19 fabrics that had been made during one quarter of the year. The variation in cost is well brought out from a study of Table 1.

By reference to Table 1, the high cost of 30.49 cents is 1.98 times the low cost of 15.40 cents. So, even among these few fabrics, the high cost was *two* times the lowest cost. Only 19 fabrics were included here, while in the earlier study there were over 200 in one mill, but the earlier observation still applies: "The costs may range to a high that is *two* to *three* times the lowest."

In glancing over Table I, it is noticeable that the variation in cost over cotton per pound has no relation whatsoever to the yards per pound. The highest cost was on a 1.65 yard fabric while the lowest cost was on a 2.30 yard fabric. This brings out the significant fact that variation in the yards per pound has no relation to the variation in cost per pound, unless the fabrics happen to be prorata in construction details.

Since it is not the purpose of this article to discuss the extent of profits recently obtainable, no sales prices and profits were given for the fabrics listed in Table I. Many managers are alert to their responsibility to the stockholders of independent companies, so are operating for optimum profits.

Profits can be determined in advance from use of individual fabric costs.

Although the profits have not been stated in cents per pound or dollars per loom week, it will be of value to extend the observations to include profits, as shown in Table II.

TABLE II

High/Low	Relation
Yards per Pound	2.56 Times
Cost over Cotton	1.98 Times
Net Profit per Pound	4.04 Times
Loom Profit in 80 Hours	6.29 Times

The high/low relationships in Table II definitely indicate the extent of possibility for management to select profitable orders. While the highest cost is twice the lowest, the mill manager seeking profits is more concerned with the variation in profits. In this instance, the highest net profit per pound was four times the lowest. The highest loom profit in 80 hours is over six times the lowest. Here is a real opportunity for management to select and develop the more profitable sales.

Where mills have for years continued profitable business with certain customers, both in good and bad times, it may be advantageous to continue that close cooperation. Where mills are under the sales control of selling agents, these mills often have to make the fabrics wanted by certain customers of the selling organization.

When a mill sells directly, then its management can be fully alert to the possibilities and go after business of the more profitable kind. In most cases, the management, which knows the reliable profits by individual fabrics, can work with the sales department or organization so as to maintain higher profits in future years for the benefit of both stockholders and employees.

Lightning Protection for Mills

*Abstract**

CONSIDERATION of possible damage to electrical equipment, machinery, and buildings in the textile industry, may be precipitated by disclosure of some pertinent facts regarding the hazard presented by lightning and what to do about it.

A fundamental article describing dangers to electrical equipment from lightning, with specific methods of protection recommended.

Lightning can cause damage to mills even though a bolt does not actually strike the building. The major problem in the mills is not so much the protection of the buildings themselves but rather the protection of the many motors and control devices connected to the electrical circuits. The first step in safeguarding this electrical apparatus is to keep lightning voltages off the supply circuits. These circuits vary in vulnerability depending upon how well shielded they are, thus:

Circuits completely contained within well grounded metal buildings will generally not require protection from lightning.

Circuits completely contained within buildings that are adequately shielded by rods or masts will not require protection if the circuits are of grounded metal-sheath cable, or if they are in conduit. Open wiring in such buildings requires protection.

Open-wire circuits contained in wood or masonry buildings without any shielding should have lightning protection.

Circuits that pass outside of the buildings require protection, unless the outdoor circuits are in metal sheather. Grounded cable should be protected regardless of the type of building because lightning disturbances can originate on the outside sections and then enter the building. Arresters and capacitors should be installed wherever the circuits leave the building. If the circuits in the building are radial, the remote ends of the circuits should also be equipped with arresters to prevent the building up of voltage by reflection at the end of the line.

Suggested Protection

The protection advisable in a plant where the circuits pass out of the buildings in open wiring is shown in Figure 1. It is assumed that the plant is located in a region of high lightning frequency and intensity. Overhead ground wires have been shown. These may be necessary if the outside circuits are of any extent, for the chance of wires being struck is by no means negligible.

Transmission line systems receive, on the average, one stroke per mile per year. Thus a line 500 feet long may be struck once in ten years. The frequency may be more or less dependent on local conditions. A direct stroke on a low-voltage circuit may cause considerable havoc, and where there is serious risk of direct strokes, ground wires or some forms of

*The information for this article was taken from material prepared by Edward Beck, Westinghouse Electric Corporation, East Pittsburgh, Pennsylvania.

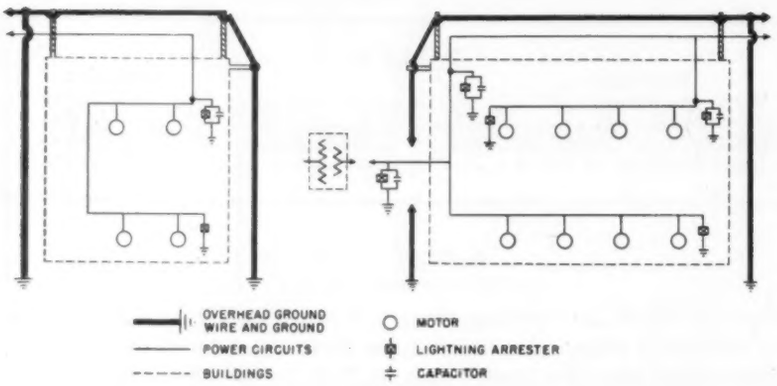
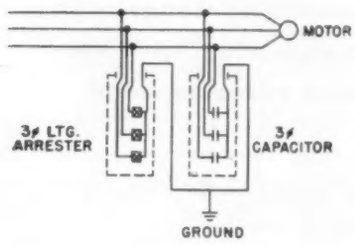


Fig. 1—Suggested lightning protection for plant with low-voltage circuits. If buildings are of wooden or masonry construction, overhead ground wires may be needed. Lightning arresters and capacitors installed where power circuits enter and leave buildings and lightning arresters at ends of circuits reduce lightning voltages to harmless values.

Fig. 2—Connections of lightning arresters and capacitors. When lightning arresters are needed to limit the maximum lightning voltage and capacitors are required to keep rate of rise of surge voltages to safe limits, the connections are as shown with both devices connected to a single ground.



shielding should be considered.

Location of Grounds

The most important factors in the location of ground wires are:

1. They must be placed so that they and not the power circuits will be struck.
2. Sufficient insulation must be maintained between the ground wires including their down leads and the power circuits to prevent back flashes to the circuits when the ground wires are struck.
3. Ground resistance of the down leads must be low.

In general, if the three wires of the circuit are close together, a single ground wire four feet above the circuit will provide good shielding. Four-foot clearance should be maintained between the ground wire and its down leads and the power circuits. This can be accomplished by supporting the ground wire on wood poles and bringing the down leads off at an angle. If the circuits run over a metal roof, it may be necessary to increase the insulation in order to avoid back flashes. This can be done with wood in addition to the regular line insulation.

Figure 2 shows the application of a three-phase, secondary-type arrester and a three-phase capacitor unit in parallel to a motor circuit.

Frames of motor and switchgear should be connected to a good ground such as a water pipe system and all lightning arrester grounds be tied to the same ground.

Most Effective Protection

For the most effective protection, the best practice is to install the protective devices as close as possible to the apparatus to be protected. The combination of lightning arrester and capacitor will protect several motors except for very severe disturbances which should be guarded against by direct stroke shielding.

The need for lightning protection depends on local conditions. Past local experience is usually a good guide as to how much, and what type of protection is warranted.

Nomogram

Size of Plied Yarns

The calculation of the size of plied yarns from the size of the single yarns is sometimes not so simple to the uninitiated. Where the yarn sizes are expressed in a weight/length system (grex or denier), the component yarn sizes are simply added together. Thus, if a 100 denier and a 150 denier yarn are combined, the denier of the resulting yarn is 250 den. (plus a slight correction for twist contraction.)

When the conventional yarn *numbering* systems (length/weight) are used, the calculation is more complicated, since the reciprocals of the yarn numbers must be added. Thus, if yarns of number n_1 and n_2 are plied together, the resulting yarn number n_p is calculated from the equation:

$$1/n_p = 1/n_1 + 1/n_2 \text{ or } n_p = \frac{n_1\ n_2}{n_1 + n_2}$$

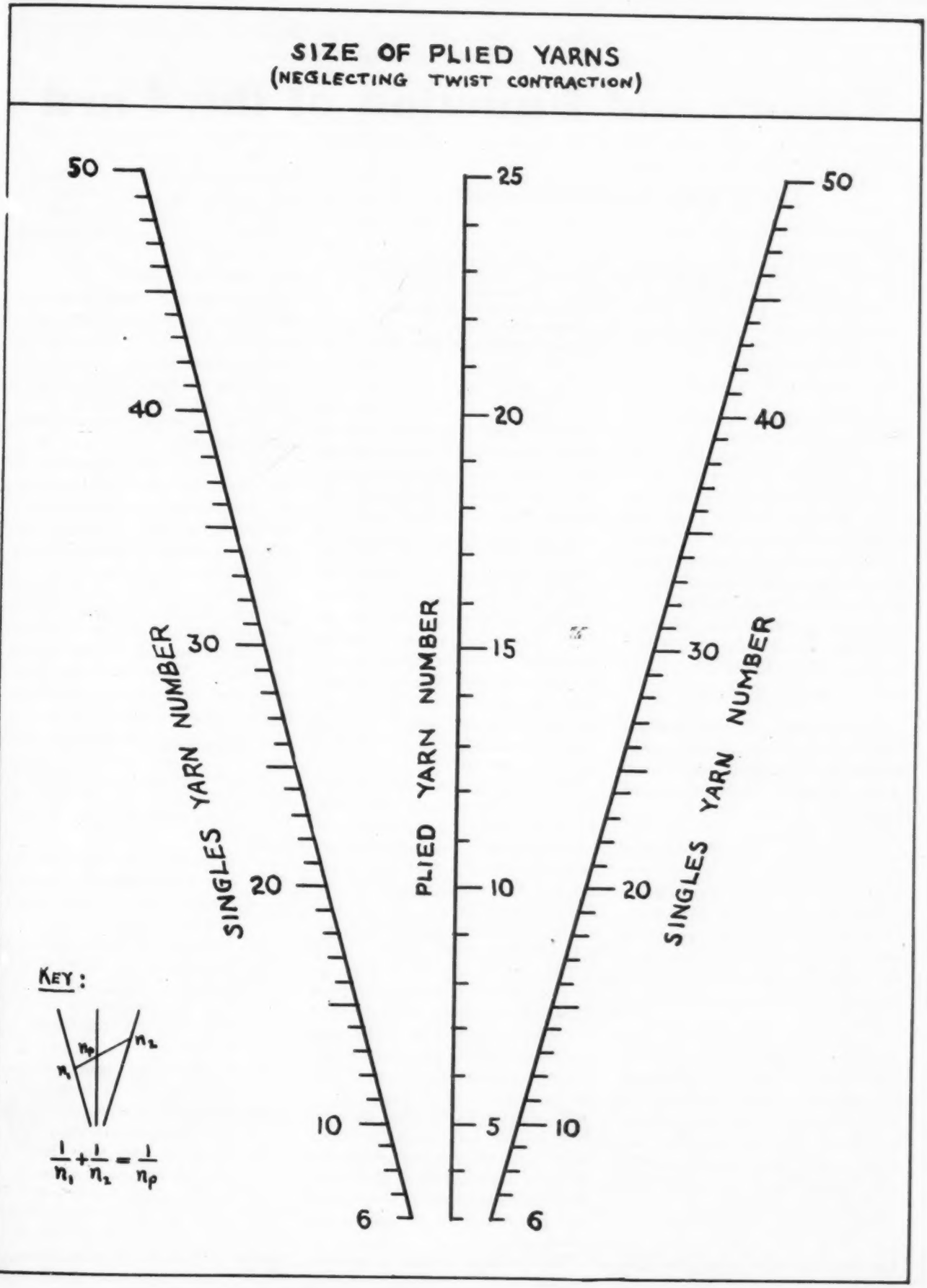
(A correction for twist contraction must be deducted from n_p).

This calculation is accomplished easily on the accompanying nomogram by simply laying a straight-edge or stretching a string between the singles yarn numbers on the outer scales and reading the plied yarn number at its intersection with the center scale.

Thus, if a 20s yarn and a 30s yarn are plied together, a line is drawn from 20 on the left scale to 30 on the right scale; at the intersection with the center scale the ply yarn number is 12.

If 3 singles yarns are plied together, the problem may be solved in two steps. Thus, with 20s, 30s, and 40s yarns, the 20s and 30s combine to form 12s. The 12s and 40s are then connected on the outer scales, and a 3-ply yarn number of 9.2 is read off on the center scale.

Nomogram prepared by Leonard Shapiro of Alrose Chemical Co.


SIZE OF PLIED YARNS
(NEGLECTING TWIST CONTRACTION)
SINGLES YARN NUMBER
50
40
30
20
10
6
PLIED YARN NUMBER
25
20
15
10
5
6
SINGLES YARN NUMBER
50
40
30
20
10
6
KEY:
$\frac{1}{n_1}+\frac{1}{n_2}=\frac{1}{n_p}$

Theory and Function of the Card

By A MILL SUPERINTENDENT

SINCE there are so many ideas extant regarding the functions and theory of operation of the revolving flat card, an article on the subject was deemed appropriate at this time. The author is a practical mill man with many years of experience in cotton mill operation. He offers many suggestions for the improvement of this important process.

THERE ARE probably as many theories regarding the card and its function as there are carders. Most mill men agree upon the major function of the card, but there is a wide difference of opinion concerning some operations of the card itself. In order to understand the theory of carding, it is necessary to understand the card and the objectives to be attained in the carding operation.

Origin of Card

It is not clearly known how the term carding originated, but carding as it is done today is the result of years of development. Originally, it was done by hand with the assistance of two flat pieces of wood, covered with thin pieces of leather into which wire teeth were set. The stock to be carded was placed on one of the cards by hand, and the two cards were placed together. They were then worked in opposite directions until the fibers were separated and straightened.

Lewis Paul invented the first carding machine in the year 1748. The machine did not have the features of modern machines. In fact it had to be fed and operated by hand. The fibers were separated and laid on stationary flats, and then stripped by hand when the card was stopped.

This early machine was improved as the years passed. The last improvement was the addition of narrow iron flats covered with wire teeth attached to two chains, one on each side of the cylinder. These were made to move slowly around and over the upper half of the wire covered cylinder. This improvement resulted in the modern "Revolving Flat Card."

Basic Operations of Card

Basically there are two main operations done by the card—namely, carding and stripping. There is a third action which is important, i. e., the generation of air currents and the centrifugal force of the cylinder. Failure to understand and control the air currents can cause disastrous and expensive results.

Before going further into the function of the card, we must keep in mind that the opening and cleaning of the stock has only been partially done before the stock reaches the card. Opening and picking machinery is designed to act on the bulk stock and does not act on individual fibers. The cotton in the lap is a mass of tangled fibers which have not been separated or placed in any order. It contains from 4 to 7 per cent impurities (motes) and short fibers (fly) which must be removed if we are to produce good yarn.

We must keep in mind that the card is the last machine which cleans and removes impurities. Unless they are removed at this stage, these impurities and short fibers will cause trouble in subsequent processes.

The carding action is accomplished by the wires of the working surfaces which are inclined in opposite directions. The flats and flat wire are inclined in the opposite direction to the teeth on the cylinder. The carding action accomplishes the complete opening of the tufts of the lap, and the separation of fibers.

The stripping action is facilitated by having the wires of the working surfaces point in the same direction. The wires on the cylinder and doffer are arranged in this manner, and the stripping action transfers the stock from one surface to another.

Air currents are generated by the high surface speed of the cylinder and licker-in, and are controlled by means of plates and screens enclosing the lower halves of the two.

The card machine is a heavy box-like frame which contains working surfaces, either stationary (mote knives), revolving, or oscillating. These surfaces perform the carding and stripping action.

Objectives of Carding

In order of their performance, the objectives to be attained in the carding operation are as follows:

(a) Removal of the heavier foreign substances, such as immature and broken seeds and leaf.
(b) Opening the masses of tangled fibers or tufts, which make up the picker lap, and the separation of the bunches into individual fibers.
(c) Removal of short fibers, neps, and light dust.
(d) Drafting of the stock—reduction of lap to web.
(e) Forming the web into a strand, known as sliver.
(f) Placing the sliver into a can.

In order to attain these objectives, the fibers are pulled between surfaces of closely set wire teeth. Centrifugal force is utilized to attain parallelization of the fibers and the removal of the small-

er and lighter impurities. The ends of the fibers are thrown against other wire covered surfaces and held there, while the heavier impurities are thrown out.

The drafting is accomplished by revolving cylinders which act in a manner similar to drafting rolls. The only difference is that the cylinders are covered with wire instead of being fluted.

How Carding is Done

We shall now follow the passage of the stock through the card. The picker lap is unwound by means of a lap roll, and is passed under a fluted and weighted feed roll to the licker-in. The licker-in carries the stock downward and forward over two stationary mote knives which are set at an angle to the licker-in. The wire-covered cylinder receives the fibers from the licker-in, and carries them forward where they come in contact with the wire-covered revolving flats. The fibers are then carried the entire distance of the flats and deposited on the smaller wire-covered cylinder, known as the doffer.

The doffer carries the fibers upward and forward to a point where they are removed by an oscillating comb. The stock, now in the form of a web, passes through a trumpet and a set of calender rolls which condenses the stock into a sliver. The sliver passes upward into another smaller trumpet and between another set of smaller calender rolls. It is then coiled into a can.

Now, having followed the passage of the stock through the card, we shall examine the working parts of the card and the function of each. (See Fig. 1.)

First, the lap roll (A) unrolls the picker lap (B) at a slower speed than that of the feed roll (C). The lap is then drawn over a feed plate (D) into the licker-in (E), which is covered with coarse teeth. As the lap passes from the lap roll over the feed plate, the outer edges of the lap come in contact with the lap guides (F). These guides keep the outer edges of the lap from spreading causing a ragged-edged web at the front of the card. The speed of the feed roll is slightly in excess of the lap roll, to insure sufficient tension to prevent the lap from over-running the feed roll and choking the licker-in.

The forward end of the feed plate (D) is dish shaped to fit the curve of the fluted feed roll. This design enables the feed roll to hold the lap firmly at the point where the teeth of the licker-in contact the tufts of cotton.

The feed roll (C) is weighted on each end by means of weights on levers which rest on the feed plate. These levers exert pressure on the feed roll bearings at each end of the feed roll. This pressure must be sufficient to keep the licker-in from tearing lumps of cotton from the lap. This is known as "plucking" and must be guarded against, otherwise the card will produce uneven sliver, will throw a heavier task on the finer parts of the card, and will also cause damage to the wire on the cylinder.

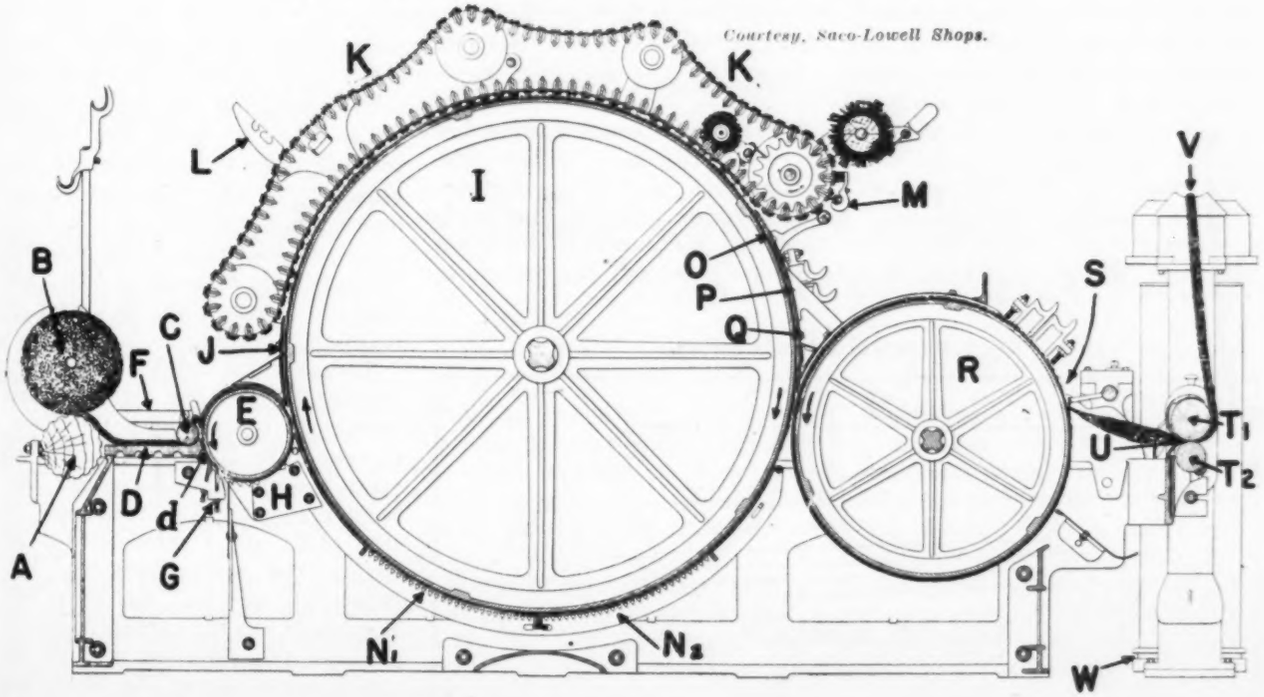
Licker-in Important

The licker-in (E) is probably the most important part of the card, and should receive particular attention. It is a hollow cylindrical shell 9 inches in diameter, the surface of which is covered with spirally-wound, saw-shaped teeth —the number of teeth per square inch depending upon the size of the wire and the pitch at which it is wound. The tendency today is to use more pitch, giving more teeth per square inch, with the result that there are more working surfaces per inch of lap fed.

The cost of this type of covering for the licker-in is expensive, but the improved stock resulting from its use justifies the expendi-

Fig. 1. Line drawing of side view of card, showing working parts.

Courtesy, Saco-Lowell Shops.



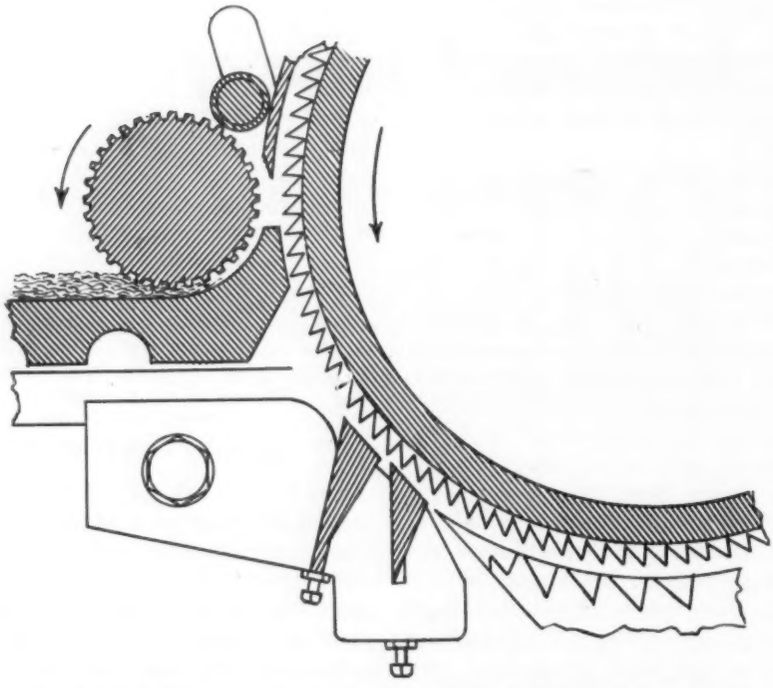


Fig. 2. Sketch showing the feed arrangement of a revolving flat card.

ture. The use of this type of covering is one means of high production carding without sacrifice in quality.

The arrangement of the teeth on the surface of the licker-in is such that an unbroken line of points is offered to the lap as it is fed, so that the probability of striking all parts of the lap is more certain. The teeth pass through the end of the lap as it is fed by the feed roll and, after executing a combing action, detach the fibers as they are released by the feed roll.

Any short fibers that are not caught by the licker-in will fall through the space between the mote knives (G). The licker-in has a high surface speed. Consequently the ends of the fibers that are not held by the licker-in are thrown outward by centrifugal force. Any foreign matter that might be clinging to the surface of the fibers is thrown in contact with the mote knives, and falls into the space below. It is at this point that the heavier impurities (motes, leaf, etc., which are still in the stock) are removed. Any appreciable decrease in speed of the licker-in causes a reduction of the centrifugal force generated by the licker-in, and is detrimental to the proper functioning of the licker-in.

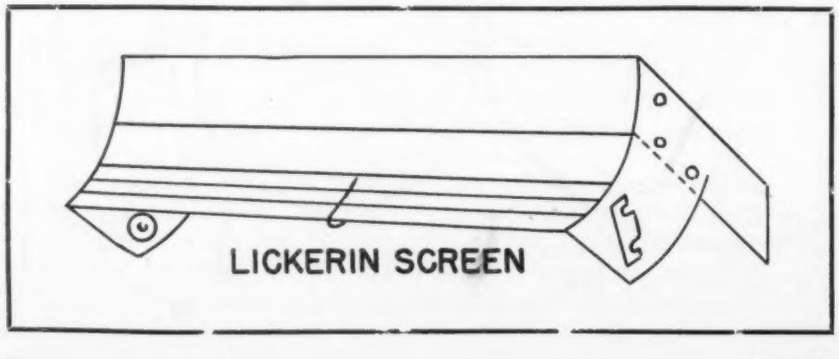
Mote Knives Overlooked

The mote knives are supported by means of brackets on the walls of the card, and are adjustable with relation to the licker-in. Formerly, the brackets were not designed to permit any change in angle of the knives to the licker-in, the only adjustment being up and down.

Some carders still do not consider the angle of the knife important. It is believed that more attention should be given to this matter. A good setting is somewhere between 10° and 20°. This setting should be measured with a specially designed gauge. Fig. 2 shows a section of the feed arrangement of the card. A close study of the sketch, noting the passage of stock and the direction of movement, will afford a better understanding of the preceding explanation.

In front of the mote knives and under the licker-in, is a sheet metal arrangement known as the licker-in screen (H), shown in Fig. 3. In it are grids with small open spaces through which short fibers fall to the floor.

Fig. 3. Sketch of licker-in screen.



The Cylinder

The fibers which cling to the licker-in are carried through a path of 180° and are removed from the licker-in by the wire teeth on the large cylinder (I). These wire teeth do the actual carding and must be held firmly in the foundation of the clothing with a certain degree of flexibility. This large cylinder (I) is the part around which the rest of the card is built.

Due to the difference in the surface speeds of the cylinder and licker-in, and the direction in which each is turning (as indicated by the arrows), the cylinder wire approaches the teeth of the licker-in at the back. The licker-in teeth offer no resistance to the removal of all fibers on them; hence the cylinder strips the licker-in and takes the fibers onto its surface. It is because of this fact that the licker-in should be set to function properly.

The cylinder carries the fibers upward toward the flats. Before coming in contact with the flats, however, the fibers first come in contact with and pass under the back plate (J). The functions of this plate are three-fold: (1) It covers the space between the licker-in cover and the flats; (2) It controls the air currents generated by the cylinder; and (3) It offers opposition to the fibers on

the cylinder, thus knocking small, loose matter from the ends of the trailing fibers. This plate should be set a little wider at the bottom (22/1000) than at the top (17/1000).

Function of The Flats

The fibers are next brought in contact with the wire surface of the flats. This is the major carding action.

A study of Fig. 4 will show that one edge of the flat is nearer the cylinder than the other. This is due to the fact that the bearing surface of the flats and the wire surface of the flats are not parallel. This arrangement is known as the "heel" (nearest the cylinder) and "toe." The heel and toe arrangement makes a slight wedge-shaped space between the wires of the flats and the wires of the cylinder. Flats are always constructed with this heel and toe arrangement, and this arrangement should be maintained throughout the life of the card. The grinding bracket (L) should be watched for wear at the point where the flat comes in contact with the flat grinding drum.

As we said before, the action of the flats is a carding or combing action. Short fibers and neps either become imbedded in the cylinder wire or are held so slightly that the flats catch them. Since they are thrown against the flats forcibly, they remain in the wire of the flats. Later these short fibers are removed from the flats by means of a flat stripping comb (M), and from the cylinder by one of several stripping systems.

Screens and Plates

Under the cylinder is another sheet metal arrangement made in two sections known as the front (N_2) and back (N_1) cylinder screens. These screens follow the curvature of the cylinder and are similar to the screen under the licker-in. Like the screen under the licker-in, these screens control the air currents on the bottom part of the cylinder and aid in preventing good cotton from leaving the cylinder.

The fibers carried by the cylinder are in contact with the flats, and next pass under the top front plate (O), known as the percentage plate. The purpose of this plate is to strip all the good fibers from the flats. The setting of this plate governs the amount of flat strips taken out—for less strips, set the plate closer to cylinder, and for more strips, set the plate farther from the cylinder.

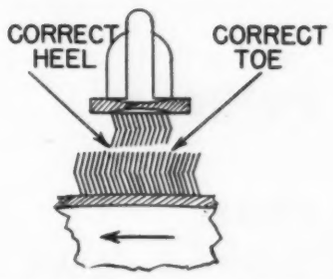


Fig. 4. Sketch of wire on flats and cylinder, showing the heel and toe arrangement.

Below the percentage plate are two other plates, (P) and (Q). Plate (P) is the hinged front door of the card, and is used when stripping and grinding. The plate (Q) is known as the bottom front plate, and its function is the reverse of the back plate (J).

The Doffer

The function of the next part (R) of the card is just what its name implies—doffer. There are two schools of thought in regard to what actually takes place. One school contends that the doffer takes the fibers from the cylinder, and the other school contends that the cylinder places the fibers on the doffer. In the writer's opinion it is not important which happens. The main thing to keep in mind here is that the action between the surface of the cylinder and doffer is a *stripping* action only. Also, keep in mind that all of the fibers do not immediately pass from the cylinder to the doffer, but some are carried around again and again, receiving still further carding action from the flats.

It will be noted that there is no screen under the doffer. The slow speed of this part does not generate enough air currents to necessitate a screen.

The next operation is to remove the fibers from the doffer. This is accomplished by the oscillating comb (S). The sheet of fibers is removed in the form of a web, which is drawn forward by means of a set of calender rolls, (T_1) and (T_2). As the web is drawn forward by these two rolls, it passes through a trumpet (U), and the fibers are condensed into the form of a strand better known as sliver.

It should be kept in mind that when the fibers leave the doffer they have been *individualized*, but full parallelization has not been accomplished and must be done in subsequent processes.

The sliver is now drawn upward and over what is known as the coiler head, by means of two small calender rolls in the coiler head. It passes through still another trumpet in the top coiler head. The sliver is then coiled into a can which rests on the can table (W) under the coiler head.

All of the working surfaces should be kept in good working order. These working surfaces have a definite relation to each other with regard to settings.

National Cotton Council To Convene in Atlanta

More than 600 cotton industry leaders from the seventeen cotton-producing states will convene in Atlanta, Ga., at the Biltmore Hotel, next January 21-23 for the tenth annual meeting of the National Cotton Council, according to a recent announcement.

The cotton men, representing farmers, ginners, warehousemen, merchants, cotton spinners, and cottonseed crushers from the entire cotton belt, will plan the 1948 cotton industry program in the fields of sales promotion, utilization research, production and marketing, and foreign trade.

Theme of the meeting will be "Cotton—In a World of Uncertainty." Key speakers of the convention will outline steps which will be taken by cotton to better its position during the coming year.

11 x 96 cents

is MORE than

10 x $1.00

By **HUGH M. COMER***
President, Avondale Mills

ELEVEN times ninety-six cents is more than ten times a dollar. The application of this fact has been the heartbeat of the success of American enterprise. This knowledge has been the stemming factor of our grand industrial history.

It is saying this—that if we can make eleven items at the same cost that has been required to make ten similar items, this production can be sold for ninety-six cents each; whereas, it has been selling for a dollar. This saving benefits everybody. The customers get a reduced price, the increased profit comes to the company to be divided between increased wages, dividends, and surplus.

The surplus to be applied back so that some day it will contribute towards making twelve items instead of ten.

The best way to destroy our present day increasing prosperity is merely to depend on increasing prices to support the increasing cost of production.

It is one thing to know that we can better our profits by increasing production without increasing costs. Any clown knows that. However, to actually increase production without increasing costs is something else.

To accomplish this increase one has to plan. And to plan calls for the use of imagination; intelligence—the intellect; alertness; a new research of *all kinds;* a willingness to depart from accepted standards. The main thing that this planning calls for is the use of *men*—fine men; smart, keen, alert, intelligent, imaginative men.

Present day machines are not going to create eleven over ten. It's going to take men—men such as we have just described.

Buddy and Technical Know-How

A few months ago I was visiting one night in one of our mills. I saw a man performing a job that was backbreaking, but it was the job. We have a slogan in our mills: "Make every job a good job." So I said to this young man, who was raised in the mills: "Buddy, it looks like that's a tough job you have got there; that's a heavy weight you are lifting. Why don't you think about this a little bit and see if you can't make this job easier and lighter for yourself?"

Sometime later a sketch showed up signed by Buddy. It was a mess and was of no value. But he had tried.

Buddy's sketch was turned over to an engineer who knew to keep Buddy right into the picture and fully aware of all the developments that took place while the research to make Buddy's job a good job was going on. He wanted to give Buddy full credit for the development of the plan.

Before very long up comes as beautiful a set of plans as only an engineer with imagination and training can draw. They showed a definite relief from the physical effort required of the job. I spoke to Buddy about it, complimented him. But Buddy, clean and honest, said to me: "This is not my plan. The engineer drew it. He carried me along with it, but I didn't realize just what could be done about this job, but he did and he made the plans. So, Mr. Comer, I think we ought to give him full credit. The job was over my head."

Buddy is exactly right. Buddy is loyal, honest, a fine worker, but he lacked that imagination that comes with training. Native ability—he had, plenty of it—but just native ability will not make eleven instead of ten. Buddies can't turn the trick.

SEVERAL YEARS ago I was in the Connecticut plant of one of the then medium big companies in the United States. I found employed in this plant two fine young men—one, a native of Georgia, the other of Alabama, both graduates of Georgia Tech. "Why," I asked them, "are you two fellows up here? Why aren't you down home in some of our companies?"

"We came here," they said, "because we were offered better jobs than we were offered anywhere else."

Since that date I have watched that company grow into one of the biggest in the United States. And I think it was because of the philosophy of using these two men, and dozens like them—the philosophy of bringing men like these into the company without having any particular production job, but just to look around, more or less, watching, and thinking, but full of developing plans back, and above their ears.

These two men, and dozens like them, have developed machines, materials, plans, production of all types, so that company today is making not eleven instead of ten but, I guess, a thousand where they were making ten, and making things today they never hoped to make, never even knew could be made, never even thought about—fifteen years ago.

It seems to me that this proves that men have got to come before machines. That company has increased its production and its productivity, and has marketed the production at a profit. Many times

*Abstract of remarks to Alabama Textile Operating Executives, Montgomery, Ala., October 11, 1947.

have they developed eleven over ten and have done it through *men*.

IT TAKES courage to put men on your payroll, not in the line of production, to make a product, the components of which you now have no knowledge; or to run machines—machines that haven't even been developed—but to a degree, that's exactly what I am driving at. I would like to quote from the letter to the Hebrews, Chapter eleven, Verses 1 and 2:

Now faith is the substance of things hoped for, the evidence of things not seen.

For by it the elders obtained a good report.

Procedure for Obtaining Patents

By PAUL B. EATON

A guide to assist individuals and organizations in the protection of their inventions, etc.

TOO MANY mills do not exercise sufficient interest in protecting new textile inventions, good trademarks, or valuable publications developed by members of their organizations.

There is usually a loss attached to the failure of any textile enterprise to properly protect these developments. For example, if a new and useful invention that will be of value to all textile manufacturers is perfected, the individual or organization who owns a patent on the device may issue licenses to others authorizing its use and receive considerable income from this source.

The same benefit may be derived from a new and useful textile product that is patented and marketed under a registered trade name.

In order to render service to textile enterprises and to individuals within the industry who perfect new and useful inventions, trade names and publications, the following information is given as a guide in properly solving problems which might result in greater benefits for an organization or individual.

Search Patent Files

If an invention that is thought to be new and useful is conceived, the best action to take is to have a patent attorney make a search in the patent files of the U. S. Patent Office to determine if the idea is new. He will obtain copies of prior patents issued to others if the idea is not new. An individual is allowed to make this search in the Patent Office under the supervision and guidance of the Search Room Supervisor, but it is an expensive process for anyone whose time is limited and who does not understand the system of checking an invention.

If it is desired to market a product under a specific trade name, it is also wise to have a patent attorney make a search in the Patent Office to see if any other individual or enterprise already holds a similar trademark for the same item. This will save possible infringement if a prior trademark has been registered.

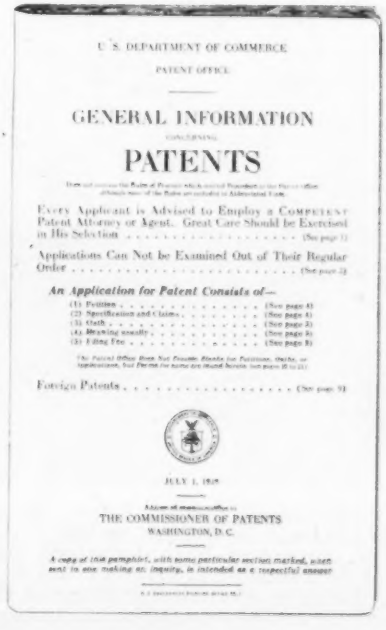
Although copyrights are under the supervision of the Librarian of Congress who employs a Register of Copyrights to administer the office, it is best to investigate the possibility of someone already holding a copyright for the same work that it is desired to have copyrighted. A patent attorney will do this also. Should a notice be received that another party already holds a copyright for a similar work, it is possible to change the article in order to make it differ from the conflicting copyright.

This matter of changing also applies to patents and trademarks.

In the case of a possible invention that has not been fully developed, it is best to reduce it to practice as early as possible. Reducing to practice means perfecting the invention and placing it in operation so that it will actually produce the desired results under normal working conditions. Experimenting and "tinkering" with a mechanism does not mean that it has been reduced to practice.

A good method to follow in regard to all inventions is to keep a record book with non-removable sheets showing a description of the invention, the date of conception, a drawing or sketch of the invention if possible, and a record of each experiment after the mechanism is built, on down to the date of reduction to practice. All of these entries should be dated, signed, and witnessed by others in order to provide protection in case of possible legal entanglements with persons claiming to have previously conceived and perfected the invention.

After reduction to practice, the Patent Application should be prepared. It is not wise to permit an


U. S. DEPARTMENT OF COMMERCE

PATENT OFFICE

GENERAL INFORMATION

PATENTS

Every Applicant is Advised to Employ a Competent Patent Attorney or Agent. Great Care Should be Exercised in His Selection

Applications Can Not be Examined Out of Their Regular Order

An Application for Patent Consists of—

(1) Petition
(2) Specification and Claims
(3) Oath
(4) Drawing usually
(5) Filing Fee

Foreign Patents

JULY 1, 1935

THE COMMISSIONER OF PATENTS
WASHINGTON, D.C.

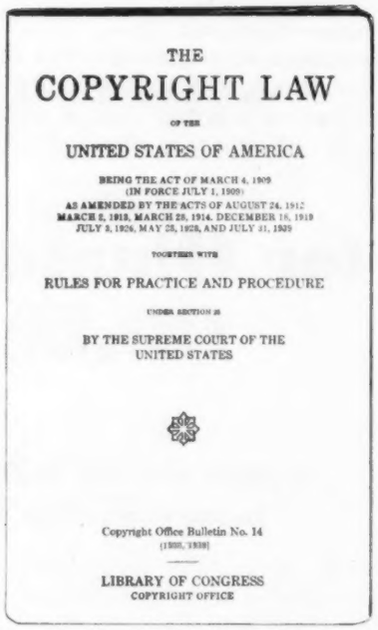
inexperienced person to write the claims for the invention.

After an application is filed, at least one year is required for the patent to be issued, the waiting period depending upon the number of applications that are ahead of it. During this waiting period, however, the invention may be used, and licenses or other rights to it may be sold before the patent is issued.

Only an individual is eligible to apply for a patent; corporations and other business organizations can not. The real inventor or inventors must apply for the patent, otherwise the patent is voidable. The individual may assign the patent or an interest in same to anyone he desires to have it before or after issue by the U. S. Patent Office. Members of the research staff of large organizations usually assign inventions to their companies because they are paid to invent new and useful processes and products.

Trademarks

If a prospective trademark has been developed and the search has been made, the application may be prepared. However, the goods must have been shipped under the proposed trademark in interstate commerce prior to the date of application for its registration.


THE
COPYRIGHT LAW
OF THE
UNITED STATES OF AMERICA
BEING THE ACT OF MARCH 4, 1909
(IN FORCE JULY 1, 1909)
AS AMENDED BY THE ACTS OF AUGUST 24, 1912
MARCH 2, 1913, MARCH 28, 1914, DECEMBER 16, 1919
JULY 3, 1926, MAY 26, 1928, AND JULY 31, 1939
TOGETHER WITH
RULES FOR PRACTICE AND PROCEDURE
UNDER SECTION 25
BY THE SUPREME COURT OF THE
UNITED STATES
Copyright Office Bulletin No. 14
(1935, 1939)
LIBRARY OF CONGRESS
COPYRIGHT OFFICE

It is not necessary for one to be a registered patent attorney in order to file a trademark application. However, there are few people other than patent attorneys who know the procedure for filing a trademark application.

Copyrights

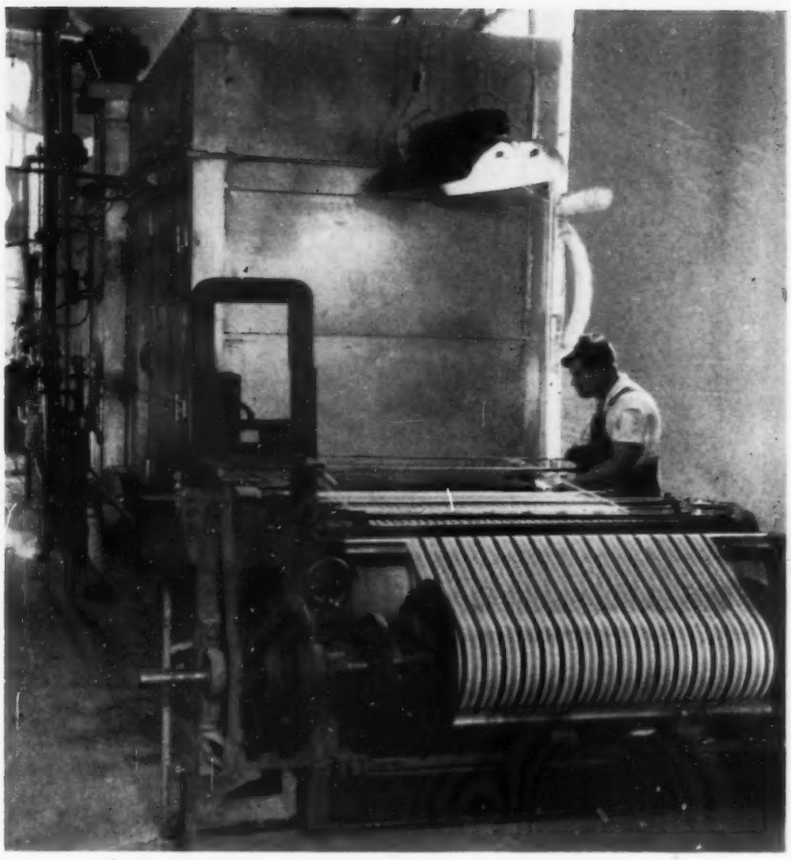
Copyrights are usually applied for after a person has completed a book, musical composition, or a work of art. It would be difficult and perhaps impossible to check up on all books, compositions, and works of art before proceeding with the writing, etc. There is usually not much difficulty in obtaining a copyright. If it has been determined by investigation that the title and the contents of the work in question do not conflict with a prior copyright, preparation of the application is in order.

Two copies of the best work must be submitted with the application. The filing fee of two dollars ($2) must be included with the application. This is considerably less than the $15 filing fee required with a trademark and the $30 fee required with a patent application of 20 claims or less.

Before any book, poem, or other matter, on which copyright is desired, is published—that is, distributed to the public—there must appear on the title page or the page immediately following, the statutory notice, "Copyright, 194— by John Doe."

Every additional printing must have this notice—that is, the word "Copyright," the year of first publication, and the name of the copyright owner. Failure to have this notice on all copies of the work dedicates the work to the public.

Five of the winners of the First Annual Textile Section Safety Contest receive their awards at the 35th National Safety Congress and Exposition held in Chicago on Oct. 9-10. From left to right are: Werner Haardt of Forstmann Woolen Co., Passaic, N. J.; Robert Barr, Industrial Rayon Corp., Painesville, Ohio; William Vana, Sr., of Bauer & Black, division of Kendall Co., Chicago, Ill.; T. B. Ipock, Firestone Textiles, Gastonia, N. C.; J. Wisener of Tallassee Mills, Tallassee, Ala.; D. R. Olinger of Bauer & Black, Chicago, Ill. Mr. Olinger was chairman of the contest committee and made the presentations.



Front view of the gas-fired, hot-air slasher which has been used on an experimental and production basis at Avondale for nearly one year.

Avondale Reports Progress with Gas-Fired, Hot-Air Slasher

AVONDALE MILLS, with plants in Alabama, perform many industrial experiments that ultimately benefit the textile industry. Such work is carried out both by the company's engineers and with cooperating manufacturers who serve the industry. Results of research and development work by Avondale's men are often viewed by the public during the annual inspection trips. The accompanying article on the gas-fired, hot air slasher at the Birmingham plant, is not a description of an entirely new principle in slashing, but is a description of new and refined equipment, with accessories, the basic principle of which has been applied previously.

This is a progress report.—The Editors.

Staff Interview

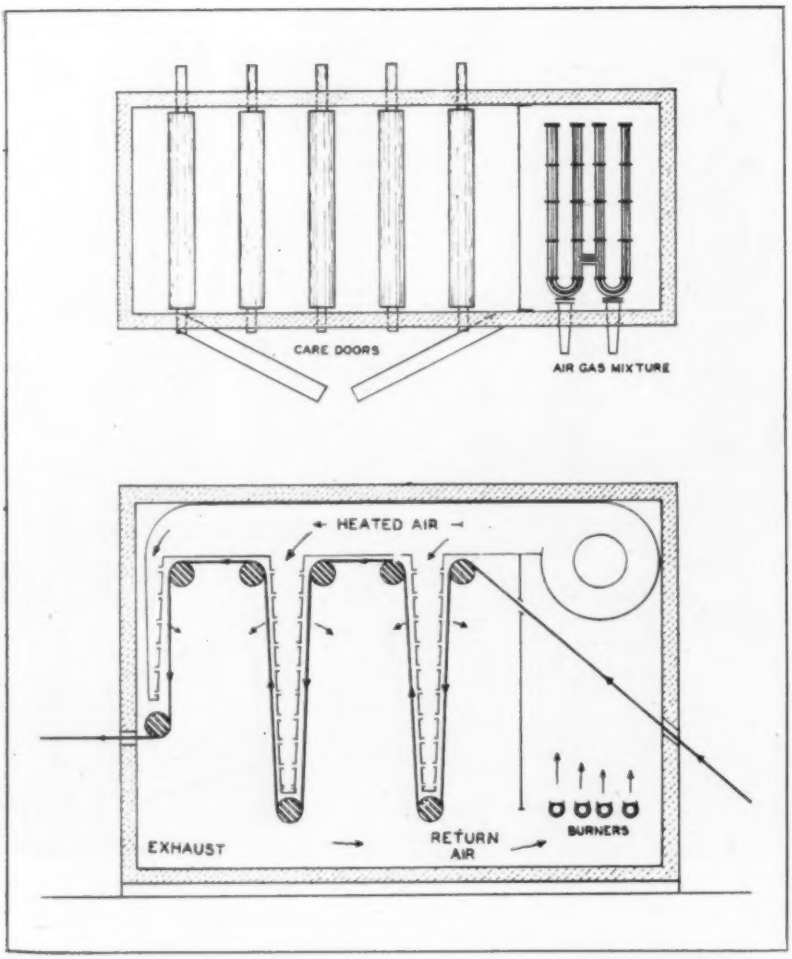
A GAS-FIRED, hot-air slasher is being operated at Avondale Mills, at Birmingham, Alabama. This slasher has been in use at the plant, both experimentally and on a production basis, for approximately one year, and though it has given promising results, it is said not to have met the exacting requirements that are expected to be achieved with further development.

It is understood that with any piece of equipment which is a departure from standard equipment in use, exhaustive experiments must be made before it is considered out of the recruit stage. Gas-fired slashers have been used in the industry previously, but they have not been accepted as standard equipment by the mills, and in some instances were discarded.

Enough progress has been made on the slasher at Avondale to indicate that further achievements are possible. This story and description of the slasher may be considered a progress report.

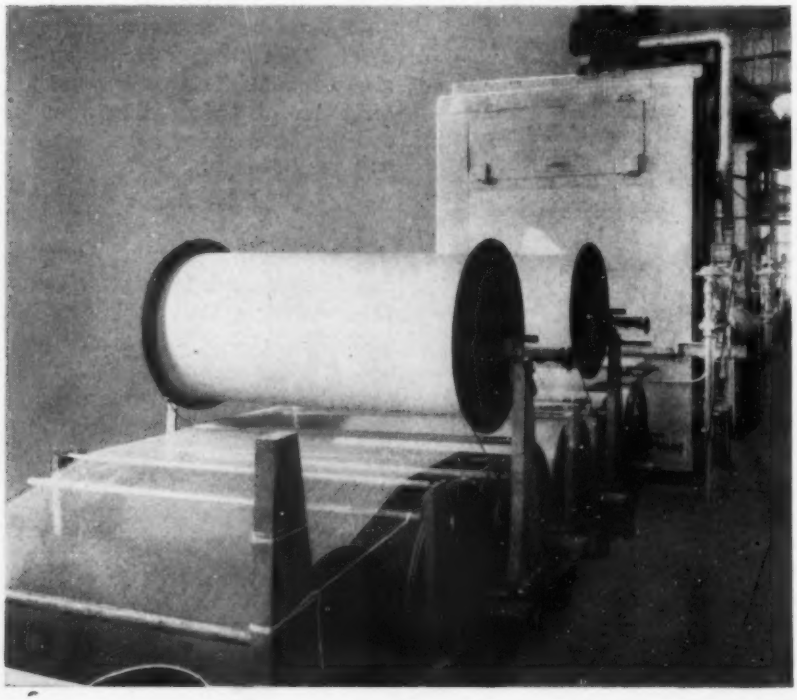
Advantages

The hot-air slasher at Avondale has been found more economical to operate in that it lowers the cost of fuel for equivalent heat, and it can be operated at much faster speeds. It is cleaner, due to the elimination of moisture condensation, and there is not as much shedding of loose fibers from the yarn. Better working conditions are in evidence because the heat is confined, and does not increase the temperature of the room. More uniform drying is said to be obtained by drying the yarn on all sides at the same time.



Above, line drawing of the drying oven. At top is a plan view showing burners and rolls. Below is side view showing path of yarn.

Below, view of slasher from the creel end. The creel and take-up mechanisms are the same as those found on cylinder slashers.



The moisture content of the air inside the machine is regulated to remain constant, and regulation can be made much faster on this machine than on the drum slasher. Temperature changes take place slower, and require more time to adjust on the conventional steam-heated cylinder slasher.

The creel and take-up mechanism is operated manually for starting and stopping, however, the moisture control instrument slows the speed down to 20 yards per minute in the event that the heat supply is cut off. It is possible for an operator to open the access doors and step inside the oven within 30 seconds after the heat is off, without experiencing danger from the temperature.

There is an electrical contact, operated by the shipper handle which breaks the contact and shuts the gas flame off immediately when the slasher has to be stopped suddenly. The heated air is drawn off by fans, thus preventing the yarn from being scorched by excessive heat. If the pilot light should cease to operate, a horn is automatically sounded, and a red light is switched on. The pilot light is ignited by a spark plug, and the gas supply to the burners is automatically shut off when the pilot light is not operating. When the access doors are opened, the gas burner is extinguished.

The elimination of hot steam pipes, and other exposed heated surfaces, is a safety feature on this type slasher. Better quality work is facilitated by drying the yarn while most of it is not in contact with any surface, and the yarn retains more of its roundness by not having been "press-dried" on a hot drum of large diameter, as on the conventional slasher, it was explained.

Description

The capacity of the slasher has not been fully exploited yet, due to the limitations imposed by the creel and take-up mechanisms. The average sheet of yarn run by Avondale contains about 3400 ends of 30s yarn, and is run at an average speed of 50 to 55 yards per minute.

The slasher at Avondale consists of a standard creel, a pre-dry-

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ing oven, a conventional size box, a drying oven, and a standard take-up mechanism. A variable-speed mechanical drive is installed between the delivery roll and the squeeze rolls, eliminating the cone pulley mechanism. A new variable-speed electric drive will also be tried on the machine.

The speed of this slasher is controlled by a Barber-Colman moisturegraph which is synchronized with the variable-speed drive, and can be varied between 20 and 80 yards per minute, based upon the amount of heat in the drying oven. The only limit thus far found to control the speed is the danger of damaging the section beams in the creel, and the speed which the take-up mechanism will stand without back-lash or braking difficulties.

The drying oven consists of an insulated box which contains about 4 inches of non-refractory insulation. The fire box is located at the rear, and heat is distributed by means of fans and baffles or louvers installed in the air ducts. The pre-drying oven is slightly smaller than the main drying oven, but it is of the same general design and construction.

The flame intensity is automatically operated by a Bristol thermostat control which gives the selected operating temperature, and a change of 5 degrees in the temperature causes a change in flame intensity. When the moisture content of the air increases, the fans exhaust more of the circulating air. The air within the drying ovens is completely renewed 10 times every minute by blower-fans which blow the exhaust air to the outside of the building by means of ducts.

Note: Experiments with hot-air slashers are also being made at other textile plants. One plant in the South is operating a hot air slasher which derives its heat from fuel oil.

The slasher is equipped with positive creel, in which the section beams are driven by contact with a drum; production on this slasher is said to be high, and little trouble is experienced with yarn in the creel over-running and kinking when the slasher is stopped suddenly.

At another plant, the hot-air slasher derives its heat from steam radiators.

Readers have already been posted on the use of infra-red for pre-drying of yarn, a system in which the infra-red unit is located between the size box and the cylinder.

The creel and take-up mechanism is the same as on cylinder slashers. A double-row gas burner is installed in each oven, and there is a baffle plate between the burners and the yarn as it enters the dryer. This plate prevents the yarn from being heated too quickly as it enters each oven.

Air is circulated by means of ducts which extend the full width of the sheet of yarn, and control is maintained by adjusting the louvers provided for the purpose. Care must be exercised in controlling the louvers to prevent the air current from rolling or splitting the yarn. This "rolling" can result in bunched yarn which may cause ends to break as the yarn comes out of the oven onto the lease rods.

The same problems of operation are encountered on this machine as are found when any new piece of equipment is first put into use. At the present time, the gas supply in Birmingham is limited, thus prohibiting further installation of gas operated equipment for industrial use.

Research Seeks Improvement and Greater Use of Domestic Wool

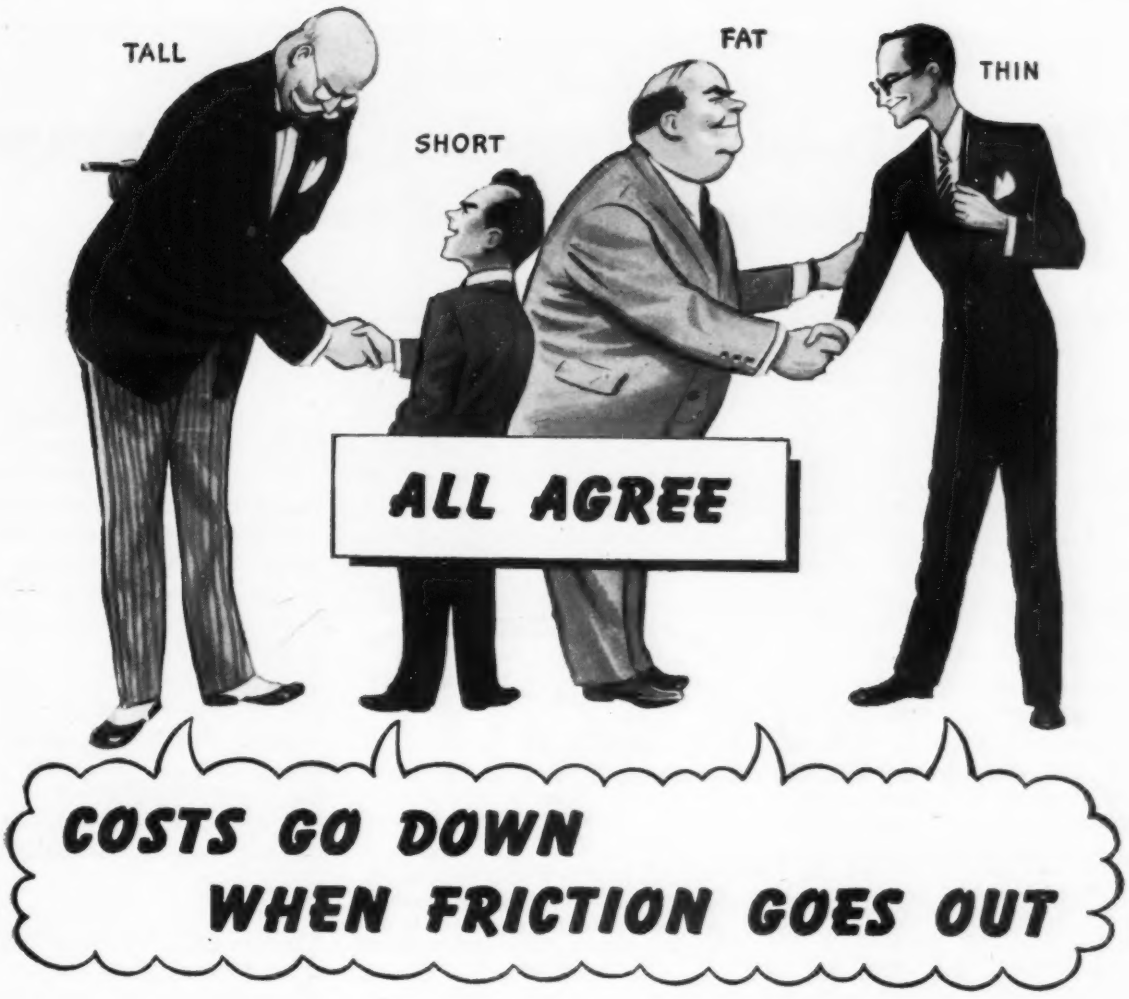
Research into ways to modify the characteristics of domestic wools, by both chemical and physical means, so that they may better meet competition from foreign wools and synthetic fibers, has been approved by E. A. Meyer, administrator of the Research and Marketing Act, according to a recent announcement by the U. S. Department of Agriculture. The project will be carried out by the Bureau of Agricultural and Industrial Chemistry at its Western Regional Research Laboratory, Albany, Calif.

Domestic shorn wool production reached a peak of 388 million pounds in 1942. Since then, wool production and the numbers of stock sheep on farms and ranches have declined continuously to a level now 34 per cent below 1942. The number of stock sheep at the first of this year was the lowest in a record that goes back to 1867. Declines have occurred in all parts of the country.

Heavy use of apparel wool in the later war years was met increasingly with imported wool. Only 18 per cent of the mill consumption in 1946 was of domestic origin, or about one-half the average annual consumption of domestic wool in the years 1935-39. Domestic wool, to compete with high-quality foreign wools and synthetic fibers, must be improved in fiber and produced more cheaply.

Research on the improvement of wool fibers, designed to increase their utilization, was approved by the Wool Advisory Committee at its summer meeting in Washington.

In the research studies, wools of various types, including the more important imported wools, will be studied as to physical structure, physical properties, and chemical composition. Information so acquired will be used in studies on modifying wool fibers so that they can better meet general as well as specific requirements. Samples of wool of known origin and characteristics from experimental flocks at various experiment stations will be given special attention.



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Maintaining Singeing Equipment
at Bellman Brook Bleachery

Maintenance pointers on singeing equipment offered by modern bleachery.

MAINTENANCE of singeing equipment at Bellman Brook Bleachery Company, Fairview, N. J., is a comparatively simple matter, but it is emphasized that no tampering be permitted with the air-gas ratio control on the carburetor. This particular control is kept under padlock. Once the adjustment is properly made, the singer operator only has to adjust the flame setting.

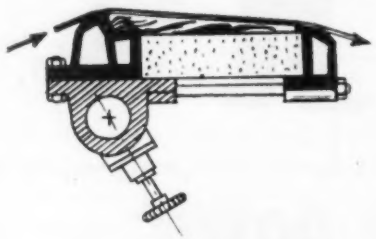
Bellman Brook, which has passed through the various singeing developments, from open flame to the present radiant-flame-compression singer, offers the following maintenance suggestions to keep the singeing equipment operating at capacity production:

(1) Clean the air filter once every two weeks.

(2) Clean and lubricate the proportioning valve of the carburetor once a month.

(3) Lubricate the back fire preventer twice a year, and clean when necessary.

(4) Lubricate the turbo-compressor motor and the cloth driving mechanism every 500 operating hours



Cross-section of a new type burner in which the flame is directed against a refractory surface to aid in obtaining a close and uniform singe.

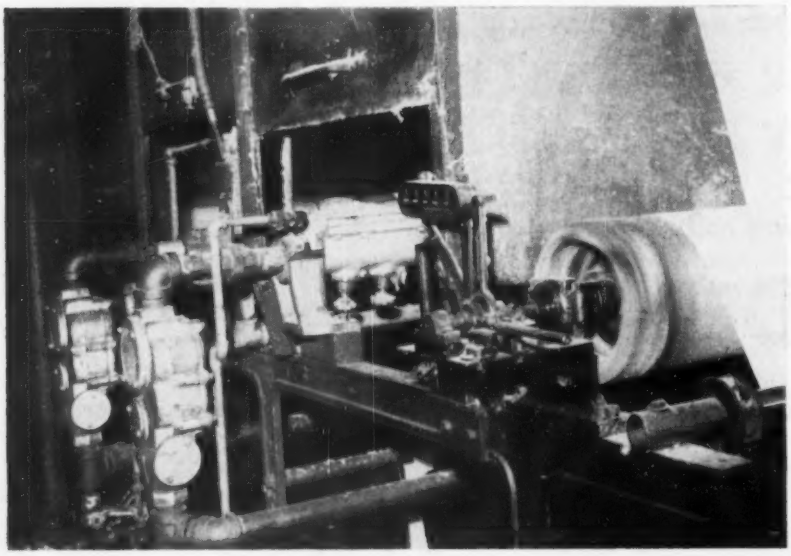
It is said that the secret of such little maintenance is that the air-gas premix equipment delivers the mixture at a constant ratio and under constant pressure to the burners despite atmospheric variations, differentials in incoming gas pressures, and the number of burners in operation. Controls provide an even flame once the setting is made, and no supervision is said to be necessary until a different type of fabric requires a different adjustment.

Fuel for the singer may be artificial, natural, or butane gas. Bellman utilizes 550 Btu. artificial gas, which before being mixed with air, passes through a pressure governor; the governor is set at the lowest pressure at which gas is ever likely to be supplied, so that regardless of variation in incoming gas pressure, the gas will be delivered to the proportioning valve of the carburetor at a pre-determined, constant pressure.

The singeing equipment singes both sides of the cloth, burners being located so that only one pass is necessary. Combustion chambers are recessed in such manner that the cloth, tightly drawn over the raised edges of the burner, forms a portion of the combustion chamber. Here the flame is compressed against a refractory surface which provides radiant heat to aid in obtaining a close and uniform singe.

The combustion chamber contains no free oxygen; nap is not burned or baked, but is carbonized by the high temperature flame, and the resulting ash is carried away by the combustion gases.

Photos courtesy, C. M. Kemp Mfg. Co.



One of the singeing units at Bellman Brook Bleachery. Here the cloth is shown as it enters the machine. Note the burners. The mechanisms in the burner supply lines (lower left) are fire checks.

TIME TESTED

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Today, with enlarged facilities and skilled personnel, we are ready for continued service to manufacturers through another great period of growth.

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WINDING MACHINES — *Principles and Practices*

By JESSE W. STRIBLING
Universal Winding Co.

CONTINUING the discussion of the No. 50 machine and including: automatic sizing mechanisms—standard sizing gauge, micrometer sizing, positive sizing attachment, and roller sizing mechanism; heavy differential pressure attachment; quick method of figuring spindle speed; figuring yarn take-up speeds.

Article 5

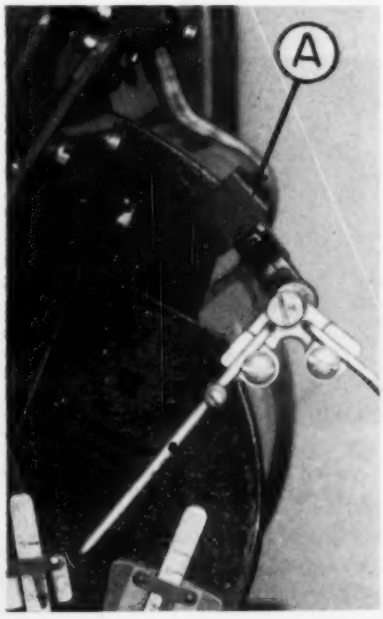
SIZING MECHANISMS are provided on the No. 50 machine to stop the spindle when the package reaches the predetermined diameter. The object in using automatic sizing mechanisms is to prevent the operator from having to lose time in gauging the packages for correct diameters. The different types of mechanisms follow:

Standard Sizing Gauge. This device, shown at (A) in Fig. 24, is a formed sheet metal part mounted on the right hand portion of the segment and is held in position by a screw. The gauge is positioned on the segment so that, when the package reaches the predetermined diameter, the traverse frame presses against the gauge, thus forcing the segment upward and releasing the steel locking points on the segment and the brake lever. This stops the spindle as described under "Starting and Stopping Motions" in Article 3.

It will be observed that the functioning of this sizing gauge depends upon pressure of the traverse frame against the gauge. This is objectionable in some cases, in that it causes the outer layers of yarn on the package to be wound under additional pressure.

Micrometer Sizing. This device, illustrated in Fig. 25, permits more accurate sizing of the package, due to a micrometer adjustment at the point where the traverse frame contacts the gauge. The device consists of a lever (A), through one end of which a screw (B) is threaded. The lever is fulcrumed on a pin (C), which is attached to the regular, or standard, type of gauge, which is in turn attached to the segment at the estimated point where it is decided to stop the spindle.

Fig. 24. Standard sizing gauge, shown at A, stops spindle at predetermined diameter of package.



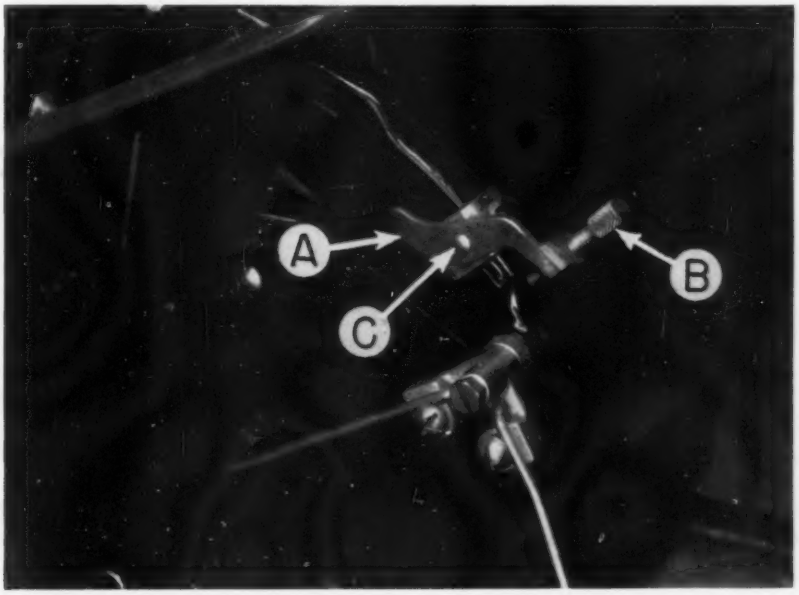


Fig. 25. Micrometer sizing gauge, shown here, permits more accurate setting for package diameter than standard gauge.

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- Increases production by saving time at each doff.
- Reduces number of ends down on doff . . . Effects many other direct savings.
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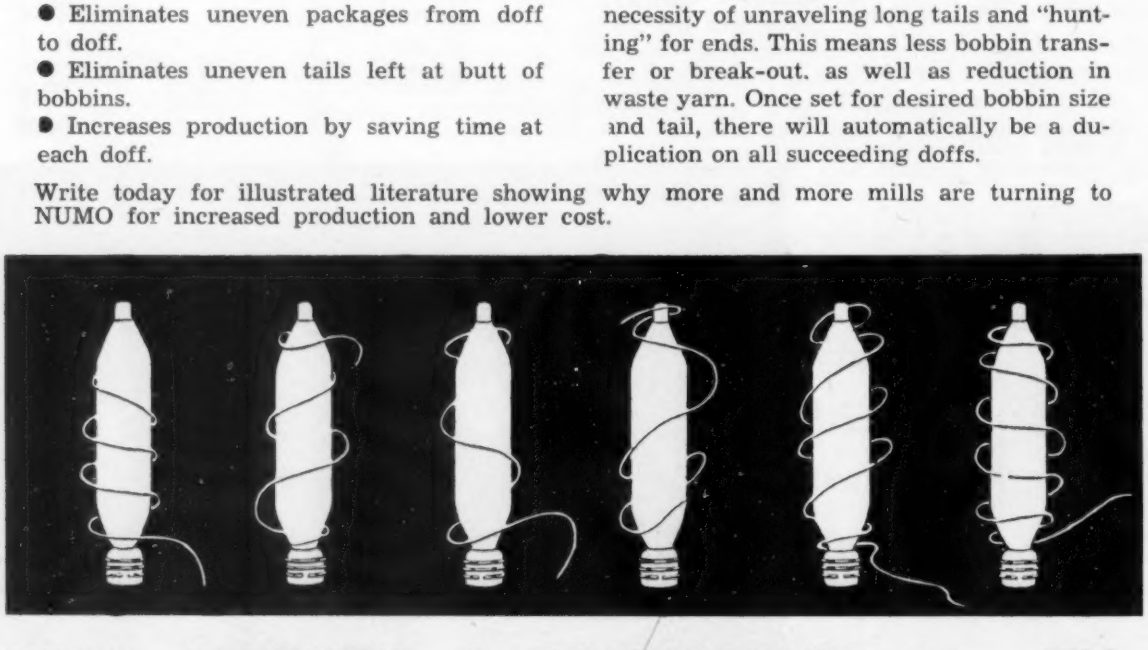

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The screw (B) bottoms on top of the segment, and adjusting this screw will raise or lower the lever (A) to any desired position. When the traverse frame comes in contact with the lever, it kicks off the segment and automatically stops the spindle.

This micrometer sizing gauge has the same objection as the standard type in that it requires pressure of the traverse frame against the gauge to raise the segment and stop the spindle.

Positive Sizing Attachment. This recently developed attachment is designed to permit more accurate diameter sizing than is obtainable from either of those mentioned in the foregoing and to obviate the objectionable feature of requiring pressure from the traverse frame against the gauge to stop the spindle. The attachment is illustrated in Fig. 26 and includes a stopping slide (A) which has a round hole at the bottom end and a slotted hole at the top. The round hole in the lower end fits over an eccentric shoulder which is machined for the purpose on the inner side or face of the special stopping lever wheel (B). Since this shoulder is eccentric with the center of the stopping wheel, it can be seen that the slide (A) is positively driven up and down by the shoulder on the wheel.

The slot in the upper end allows the slide to be positioned on a stopping adjuster screw (C) which screws into the traverse frame back. The self-locking nut (C_1) on the extreme end of the stopping adjuster screw, together with the coil spring (C_2), provides a micrometer setting for the slide, toward or away from the traverse frame back.

With the spindle in operation, the slide is continuously being oscillated up and down, being driven by the eccentric on the stopping lever wheel, and as the package becomes larger, the movement of the traverse frame back away from the package carries the slide nearer to the gauge (D), which is secured to the segment (E) by two adjusting screws (D_1 and D_2).

When the predetermined diameter of package is reached, the right hand edge of the projection (F) on the slide touches the left hand edge of the downward-projecting finger (D_3) on the gauge. This kicks the segment upward, stops the spindle, and sets the brake.

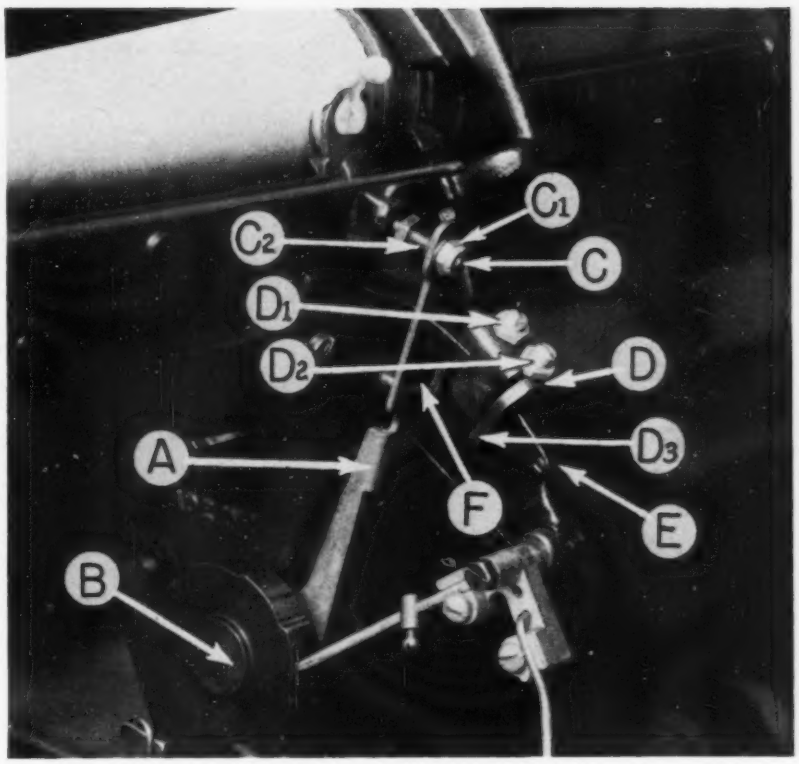


Fig. 26. Positive sizing attachment, powered from eccentric on stopping lever wheel. Does not depend upon pressure from traverse frame to stop spindle.

The attachment is set by first winding a package to the desired diameter. Tighten self-locking nut (C_1), compressing spring (C_2) about half-way on screw (C). Move gauge (D) along the segment until finger (D_3) will be struck by slide (F) as it oscillates up and down.

After backing both checknuts away from gauge (D), tighten both screws (D_1) and (D_2) firmly. If the tip of the gauge at (D_3) is not positioned properly to be struck by slide (F) and lift the segment, loosen one of the screws (D_1 or D_2) and tighten the other, depending upon which direction the tip (D_3) is to be thrown, until contact between (F) and (D_3) is such that the segment is kicked off. Then tighten both checknuts.

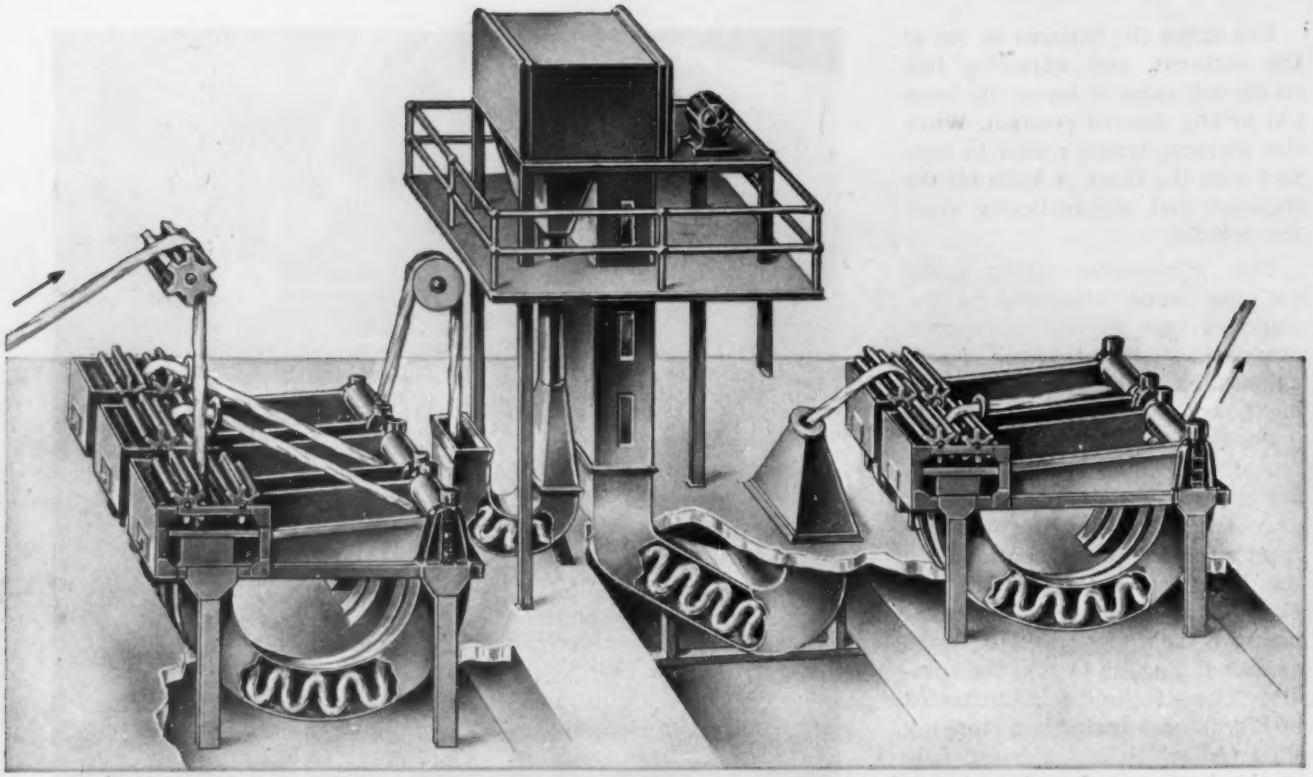
It should be mentioned that the function of the screws (D_1 and D_2) is only to hold the gauge (D) on the segment and that the adjustment of these two screws is only to obtain proper contact between the tip of the gauge (D_3) and the projection on the slide (F).

The exact setting to obtain the desired package diameter is then made by running the self-locking nut (C_1) on the screw (C) in or out, thus moving the slide projection (F) to the left or right until it just touches the gauge at (D) with a package of the desired diameter on the spindle.

Roller Sizing. The roller sizing mechanism, shown in Fig. 27, is different in principle from those mentioned before, in that it gauges directly against the surface of the package and does not depend upon the position of the traverse frame at the predetermined diameter actuating a gauge on the segment. It will be seen also that this attachment does not depend upon pressure from the traverse frame against the segment to stop the spindle.

A knurled-edge eccentric roller (A) is mounted on the upper end of a long lever (B), this lever having a micrometer adjustment so that the upper end can be adjusted toward or away from the surface of the package.

To set the mechanism, a package (usually a parallel tube or



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braider bobbin) is wound to the desired diameter. The lever (B) is then set by the micrometer screw so that the edge of the eccentric roller (A) barely touches the surface of the package.

Since this roller (A) is eccentric around a pin in the upper end of the lever (B), the instant the knurled edge of the roller touches the surface of the package, the roller rotates and, due to its eccentricity, throws lever (B) to the left. The lower end of lever (B) is connected to the stopping lever, so that when roller (A) turns and forces the upper end of the lever away from the package, the lower end forces the breakage lever against the stopping lever wheel and stops the spindle.

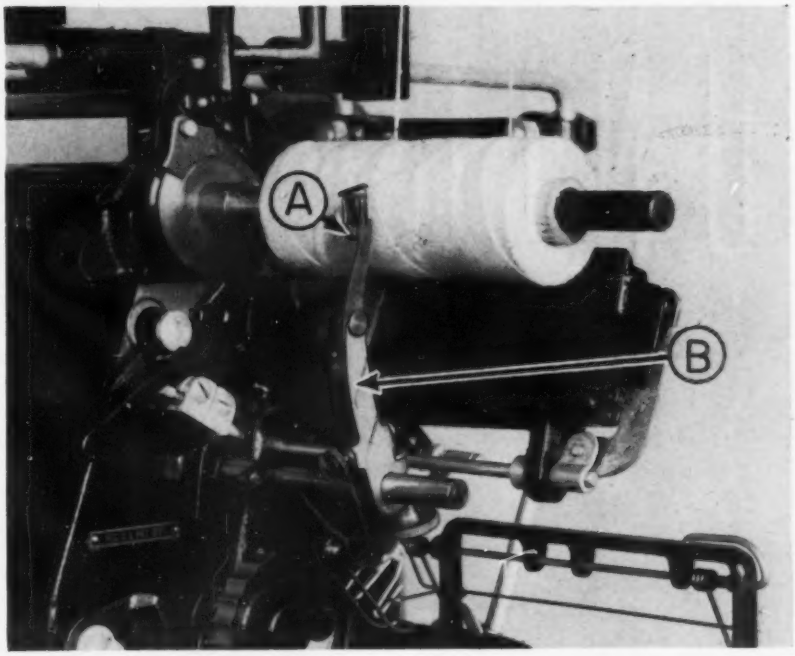


Fig. 27. Roller sizing mechanism. Spindle is stopped when eccentric knurled wheel (A) contacts surface of package.

Heavy Diff Pressure Attachment

In Article 2 was described the regular differential tension and pressure attachment. That attachment, and the tension and pressure weights used with it, is usually sufficient to provide the amount of tension and pressure for most yarns wound on the No. 50 machine.

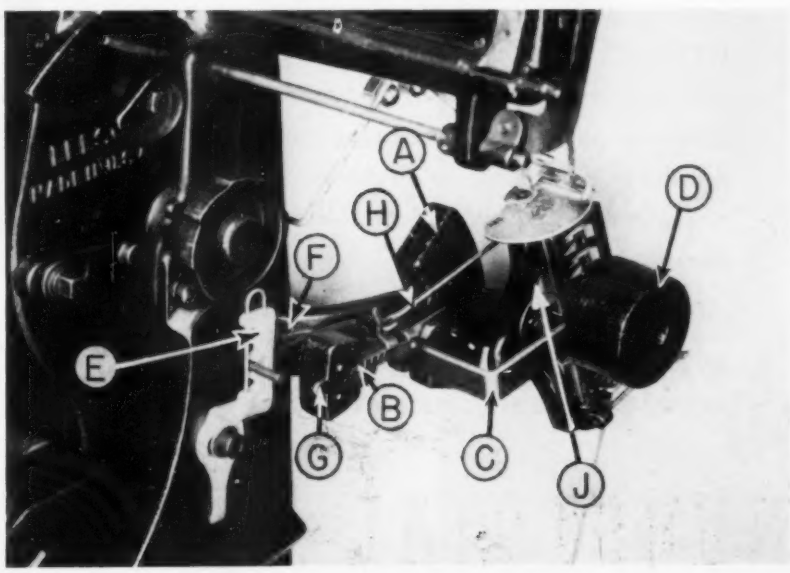
However, occasions do arise when it becomes necessary to apply more pressure than is obtainable from the regular attachment. For winding heavy ply yarns on firm and compact packages, the "Heavy Differential Pressure Attachment" as illustrated in Fig. 28, can be used to advantage. This attachment includes extra-heavy pressure weights which apply heavy pressure at the beginning of winding, thus providing a firm base for the package. The leverage of the weights is such that the pressure is then quickly released, as the package increases in diameter, resulting in a well shaped tube or cone, without bulging at the ends.

The device consists of several special parts which replace the standard diff tension and diff pressure parts. The principal part is the diff pressure weight shown at (A) in Fig. 28. This weight has a shank for mounting on the diff pressure lever stud (B), and attached to the weight (A) is a U-shaped auxiliary diff pressure weight holder (C), on the outer arm of which is assembled an adjustable auxiliary diff pressure weight (D). Pressure may be increased or decreased by moving this weight (D) to the right or left on the auxiliary holder (C), a screw in the weight (D) being provided to tighten it on the holder.

The four-place diff pressure adjuster (E) is used on the traverse frame counterweight. The connecting rod (F) is held at the left hand end in the adjuster (E) and transmits motion from the counterweight to the weight (A) and the diff tension lever (G). The latter is mounted on the right hand end of the connecting rod (F), which projects through the diff pressure weight (A) and is connected with the movable tension by the standard diff tension connecting rod (H).

As in the case of the standard diff tension and pressure attach-

Fig. 28. Heavy differential pressure attachment: used in winding coarse counts, usually plied, where more pressure is required than is obtainable from standard attachment.



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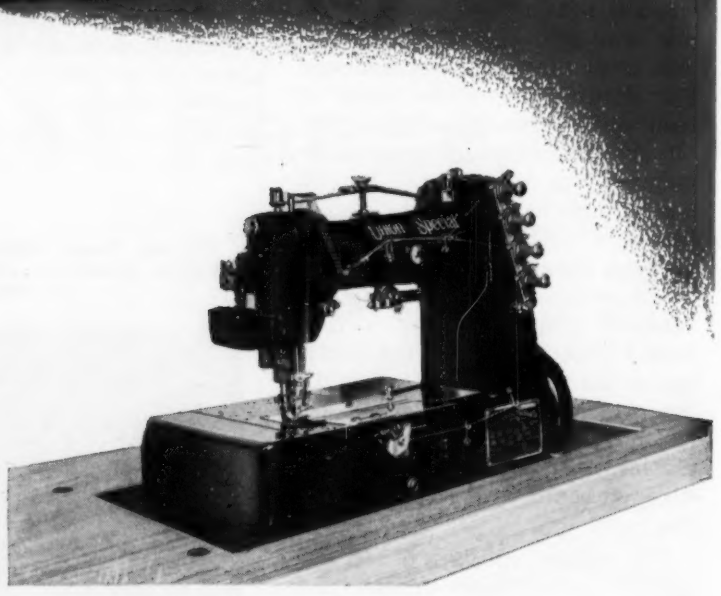

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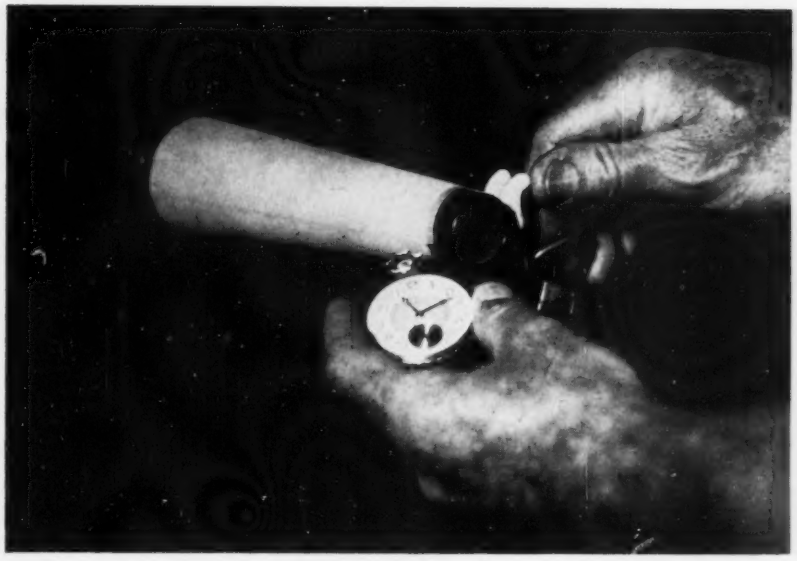


Fig. 29. Determining spindle speed without using speed indicator, by counting strokes of thread guide and multiplying by twice number of winds.

ment, when the package increases in diameter, the traverse frame counterweight moves to the left and, through the connecting rod (F), pulls the pressure weights (A) and (D) from a horizontal position upward into an angular position, thus decreasing the amount of pressure applied to the thread guide. Tension is released at the same time, the tension lever (G) being also pulled upward into an angular position from the horizontal, thus decreasing the amount of tension applied to the yarn.

An auxiliary tension closer spring (J) is added to the regular tension closer, because the speed of the heavy yarn, as the package approaches full diameter, has a tendency to throw open the tension grids.

When using the heavy pressure attachment, it is customary to use also heavy finger tensions, which have eight fixed grids and seven movable grids to each pair of tensions, instead of the 14 fixed and 13 movable grids on the standard finger tension.

Determining Spindle Speed Without a Speed Indicator

On the No. 50 machine, or any other type of precision winder, the approximate spindle speed can be determined quickly and easily without using an indicator on the spindle.

This is done by placing the finger at some point on the machine where a reciprocating part will touch it lightly, as illustrated in Fig. 29, where the thumb is being held at the outer end of the stroke of the thread guide on the No. 50 machine.

An ordinary watch is used, and the number of strokes the thread guide makes is counted for one minute. Multiply the number of strokes by twice the number of winds being used, and the result will be the revolutions per minute of the spindle. For example, if 2½ winds are being used and the thread guide makes 250 strokes per minute, the spindle speed will be (250 × 2½ × 2) 1250 rpm. It will be remembered that, in using 2½ winds, the spindle makes 5 revolutions to each revolution of the cam. The thread guide makes two strokes to each revolution of the cam.

Parraffin Attachment

An attachment frequently used on the No. 50 machine is one for applying paraffin to the yarn, usually ply yarn, as it is wound. The attachment is applied to the tension bracket just above the slubcatcher. It may be with a single paraffin disc, as shown in Fig. 30-A, or with two discs, Fig. 30-B, in which case the yarn takes a serpentine path under the discs, being threaded under the left hand edge of the lower disc and under the right hand edge of the upper disc.

The paraffin disc used has an outside diameter of approximately 1 11/16", a hole 5/8" diameter, and is about 11/16" thick. It fits over a post on a holder, the lower part of which is a metal disc with a beveled edge, to permit easy threading. The holder turns on a pin, the paraffin disc turning with the holder, and the yarn runs between the beveled metal disc and the paraffin disc, picking up a "smear" of paraffin. The paraffin disc gradually wears down in

Fig. 30-A. Single paraffin attachment.

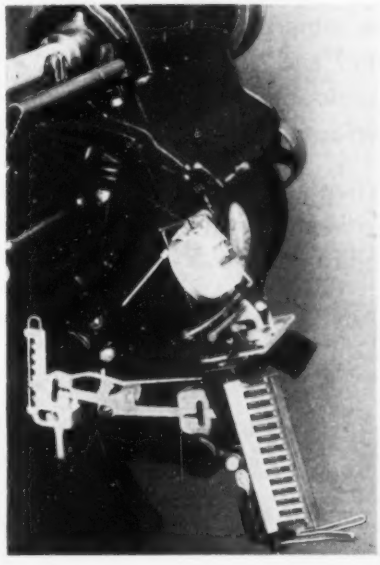
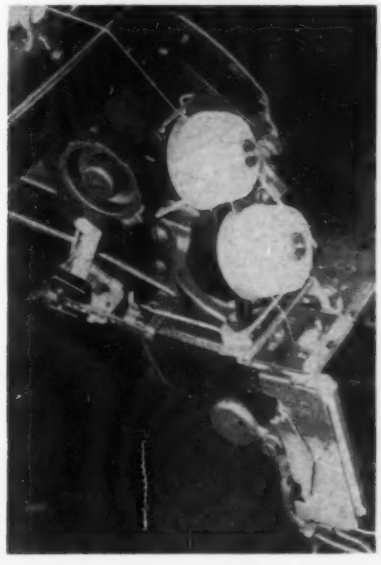
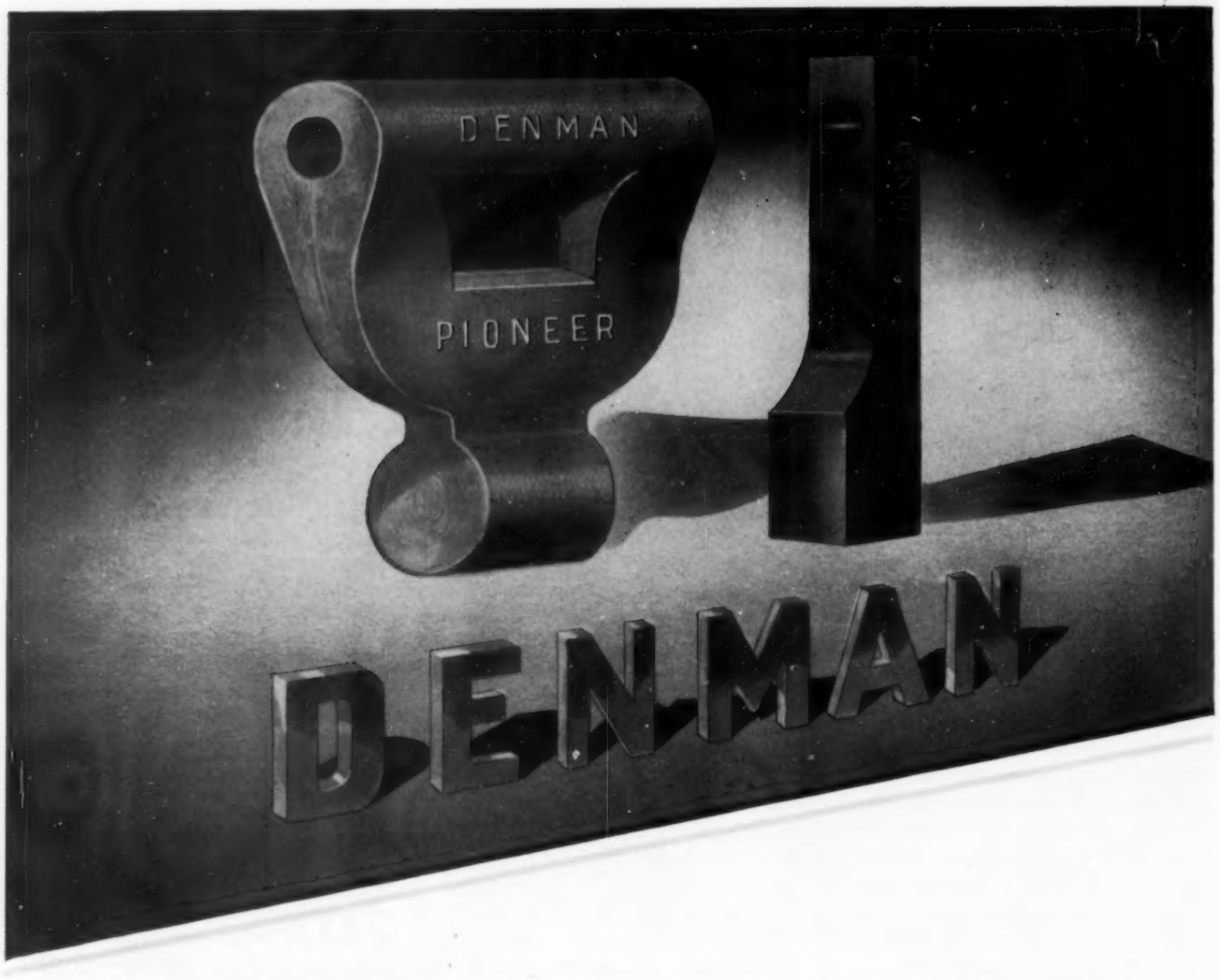


Fig. 30-B. Double paraffin attachment.





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thickness, and when it becomes too thin for effectiveness, it is customary to add another disc on top of the one almost exhausted.

Paraffin can be obtained with different melting points, and it is the usual practice to use a high-melting-point paraffin in hot weather, otherwise the disc will get soft and lose its shape. When this happens, the disc will hang down in the shape of a loop and will not revolve through contact with the yarn; the yarn will cut a path in one place and will then fail to pick up paraffin.

The attachment is used for single end winding, both single and double disc, as shown, or it can be used on the individual ends of two-end or three-end winding on the same spindle.

Figuring Yarn Take-Up Speeds on the No. 50 Winder

In figuring productions on the No. 50 winder from the spindle speed, it first becomes necessary to determine the average diameter, and from it the average yarn speed for the package being wound. It should be remembered that the yarn speed increases as the diameter of the package increases.

The average winding diameter of a *parallel tube* is determined by adding the diameter at the start of winding to the diameter of the finished package and then dividing by two.

The average winding diameter of a *cone* is quickly figured by adding the starting diameter on the *nose end of the traverse* to the *base diameter of the full cone* and then dividing by two. (Or: adding the starting diameter at the base end of the traverse to the full diameter at the nose end of the cone and dividing by two.)

Example: When winding a 4"-diameter package on a 27/32" (outside) diameter tube (⅝" hole) at 1000 rpm, the approximate average winding speed will be (in yards per minute):

$$\frac{2.422\text{"} \text{ (Ave. Diam.)} \times 3.14 \times 1000 \text{ rpm}}{36\text{" per yard}} = 211 \text{ ypm.}$$

The above method is simple and is accurate enough for approximating purposes, but it is not absolutely accurate because it does not take into account the angular path of the yarn as it is wound around the tube or cone. The path of the yarn is the hypotenuse of the triangle whose side is the circumference of the package and whose base is the length of traverse. For those who may be interested in figuring average yarn speeds to the utmost accuracy, the formula and example in the accompanying box allows for this angularity by including the traverse length and the number of winds, which is the same as figuring the hypotenuse of the triangle mentioned.

METHOD OF FIGURING AVERAGE YARN SPEED

$$\frac{\text{RPM}}{36\text{"} \times \text{Winds}} \times \sqrt{(\text{Traverse})^2 + (\text{Winds} \times \text{Ave. Diam.} \times 3.14)^2} = \text{YPM}$$

Example: When winding a 4"-diameter package on a 27/32" (outside) diameter tube (⅝" hole) at 1000 rpm, 6" traverse, 2½ winds:

$$\frac{1000}{36\text{"} \times 2.5} \times \sqrt{(6\text{"})^2 + (2.5 \times 2.422 \times 3.14)^2} = \text{Corrected Average Yarn Take-up Speed.}$$

$$11.11 \times \sqrt{36 + 36} = 11.11 \times 19.9 = 221 \text{ ypm.}$$

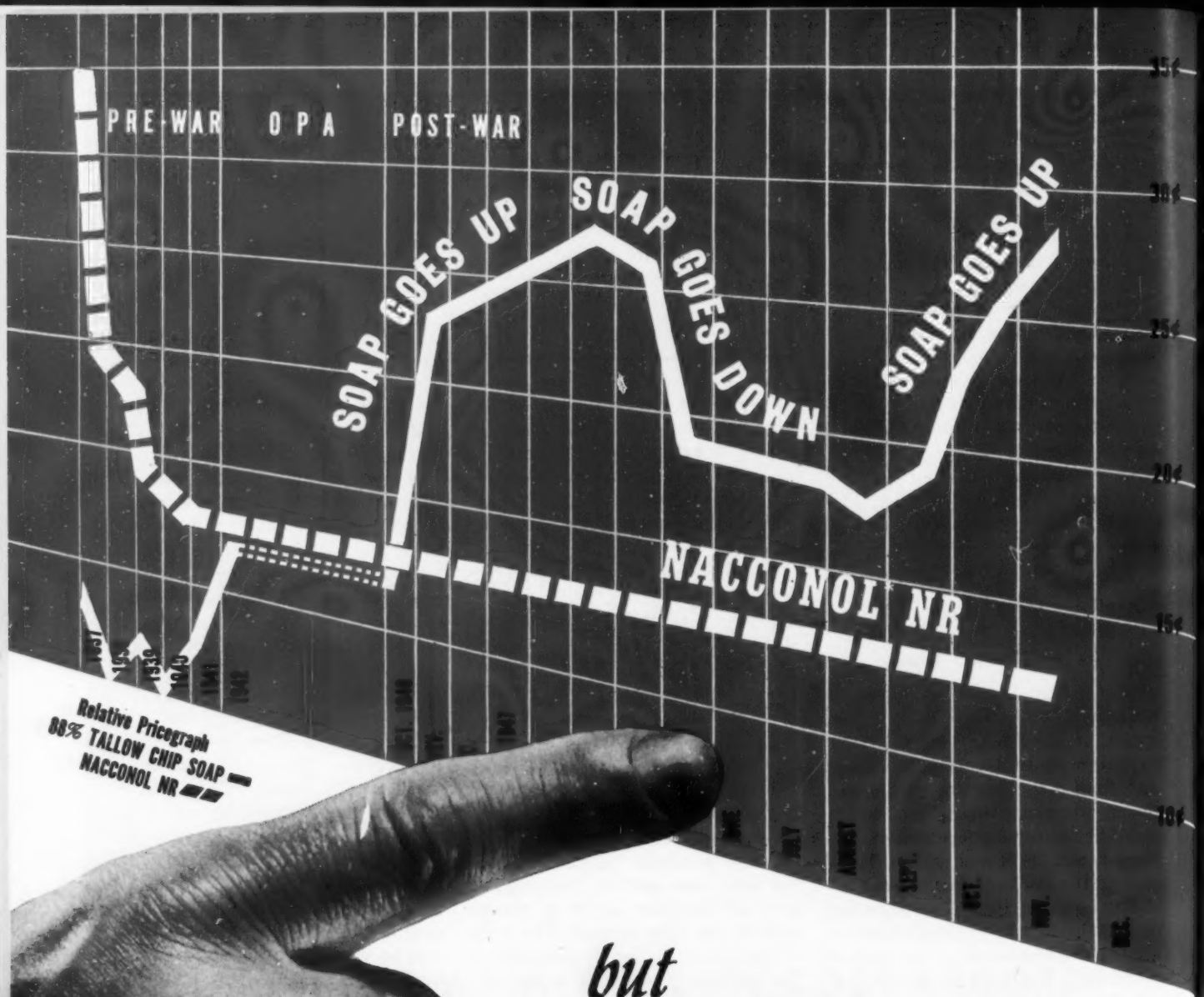
In the examples given, it will be observed that, by making the correction for the number of winds and the traverse, the actual average yarn speed will be 221 yards per minute, instead of 211 ypm where no correction is made.

The formula in the box was used to prepare Table 2, which is worked out for packages of 6" traverse and 2½ winds. Any variation in length of traverse or number of winds will affect the resulting average yarn speed, but the variation from the tabulated speeds will not be so great as they will be when only the approximate formula is used.

The speeds obtained in Table 2 are accurate only for ⅝" hole tubing (27/32" outside diameter) and regular 5° 57′ coning or 9° 15′ "Nutaper" coning. (The starting

TABLE 2.

Diameter of Full Tube or Base Diameter of Full Cone	AVERAGE YARN TAKEUP SPEEDS — CORRECTED FOR 6" TRAVERSE 2½ WIND								
	AVERAGE YARN TAKEUP SPEEDS IN YARDS PER MINUTE FOR THE FOLLOWING SPINDLE SPEEDS								
	900 RPM	1000 RPM	1200 RPM	900 RPM	1000 RPM	1200 RPM	900 RPM	1000 RPM	1200 RPM
6¼	285	317	380	301	334	401	320	355	426
6	275	306	367	291	323	388	310	345	414
5¾	266	295	354	281	313	375	301	334	401
5½	256	285	342	272	302	362	291	323	388
5¼	247	274	329	262	291	350	281	313	375
5	237	264	316	253	281	337	272	302	362
4¾	228	253	304	243	270	324	262	291	350
4½	218	243	291	234	260	312	253	281	337
4¼	209	232	279	224	249	299	243	270	324
4	199	222	266	215	239	286	234	260	312
3¾	190	211	254	205	228	274	224	249	299
3½	181	201	241	196	218	261	215	239	286
3¼	172	191	229	187	207	249	205	228	274
3	162	180	217	177	197	236	196	218	261
2¾	154	171	205	168	187	224	187	207	249
2½	145	161	193	159	177	212	177	197	237
2¼	136	151	181	150	167	200	168	187	224
2	127	141	169	141	157	188	159	177	212
1¾	119	132	158	132	147	177	150	166	200
1½	110	123	147	124	138	166			



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diameter at the nose end of the traverse on both 5° 57′ and 9° 15′ coning is 27/32″, the same as the starting diameter of 5/8″-hole tubing.)

To correct any of the speeds given in Table 2 for other spindle speeds, use the formula:

$$\frac{\text{Yarn Speed} \times \text{Spindle Speed}}{\text{Known Spindle Speed}} = \text{Corrected yarn speed}$$

Following is an example:

$$\frac{222 \text{ ypm} \times 1100 \text{ rpm}}{1000 \text{ rpm}} = 244 \text{ ypm for } 1100 \text{ rpm.}$$

(To be continued)

Device Measures Perspiration Odors

UNTIL recently, the only means of measuring all kinds of odors was by use of the human olfactory nerves. Recognizing the need for accuracy in the measurement of perspiration odors in order to more effectively combat the effects of perspiration on fabrics and finishes, The United States Testing Company of Hoboken, N. J., has built an apparatus for measurement of these odors. Description of this device is presented here.

THE EFFECTS of perspiration on fabrics and fabric finishes has been a subject of much interest and investigation in the textile industry in recent years. Laboratory research has been done on the problem, and some substantial results have been obtained.

Perspiration and Textiles

Sterile perspiration has no action on fabrics and fabric finishes, does not increase their odor, and does not decompose them. On the other hand, contaminated perspiration, i.e., normal perspiration as it comes in contact with fabrics, causes fabrics to rot in addition to producing strong odors.

The speed of the deterioration process can be very great. A high pH, plus decomposition of the sweat on finishes and fabrics, culminates in the quick destruction of the fibers. Generally the process is much slower, due to the retarding action of washing.

Measurement Necessary

The speed of the deterioration process can be determined by measuring the decomposition of the sweat. If the odor is measured, the degree of decomposition can be identified. It is necessary to measure odors by laboratory tests in order to determine the degree of contamination.

The Osmometer

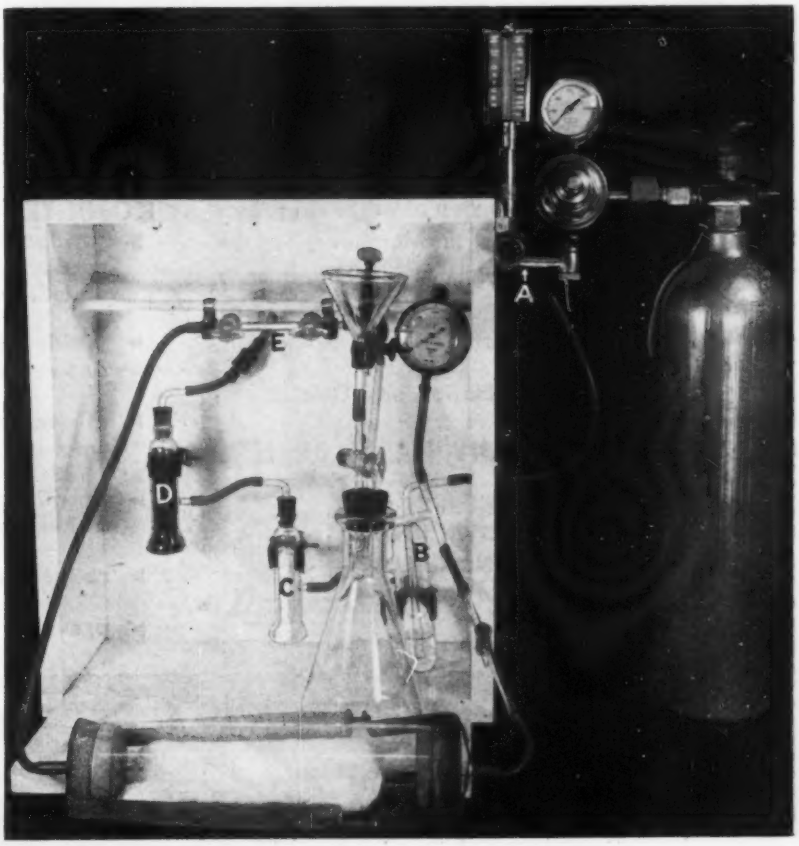
The United States Testing Company has developed a new testing apparatus which permits a more comprehensive study of the problem. The Osmometer functions as an aid in determining the concentration of odors. It was built to measure all kinds of odors, and is based on the air dilution principle.

The instrument is connected to a source of compressed air (as shown in the photograph) and consists of a flowmeter (A), and air washer (B), a dessicator (C), a deodorizer (D), a mixing jar, a sample-container tube (E), a pressure gauge, and an outlet funnel.

The odorous material is placed in the sample tube, and a measured volume of washed, moisture and odor-free air is forced through the specimen and into the mixing jar. This will increase the pressure in the mixing jar and also dilute the odorous vapors to a known proportion, depending on the volume of air forced through the specimen and upon the volume of air in the mixing jar.

This apparatus is another scientific advancement in the investigation for more satisfactory ways of preserving fabrics from perspiration odor, and rotting and discoloration, by preventing bacterial decomposition.

Osmometer by U. S. Testing Co.



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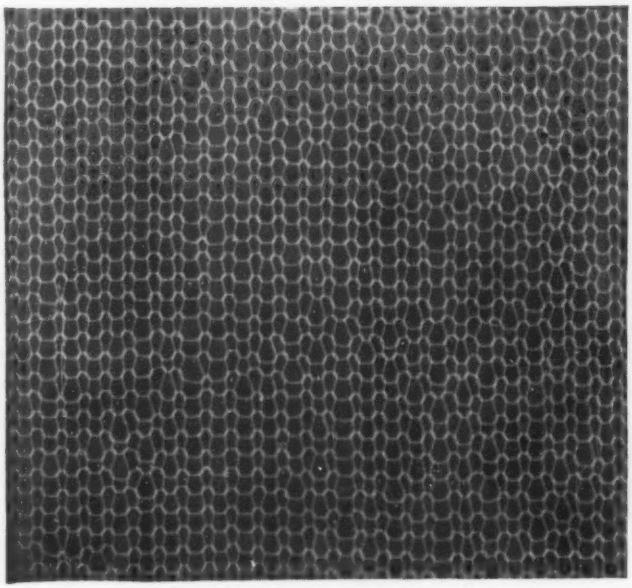
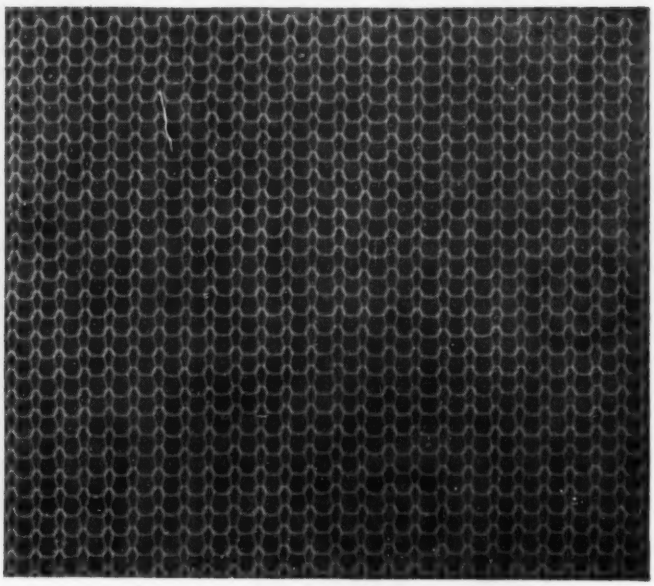


Here's fabric knit from conventionally treated yarn



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Experience with rubber squeeze roll covers, long quills, nylon bolsters, ball bearing rolls, and pneumatic roll pickers, was given.

Staff Report

EASTERN North Carolina Division of Southern Textile Association held its fall meeting on Saturday, November 8, at Erwin Cotton Mills Community House, Durham, N. C.

A. R. Marley of Erwin Cotton Mills, Durham, N. C., chairman, presided at this meeting. The discussions are summarized here for the benefit of others in the industry.

Squeeze Roll Covers

Sheeting is used as the initial cover for the squeeze roll in one mill. This is followed by a covering of burlap, finishing with an all-wool blanket. An old piece of blanket is put on the new one when first started and this is removed after breaking in has been completed. The squeeze roll is painted with white lead before the fabric covering is applied.

A manufacturer's representative described a synthetic squeeze roll cover which is said to be successful when used as the first roll to come in contact with the sized yarn. The synthetic squeeze roll cover is made of one-inch synthetic rubber and consequently increases the diameter of the roll over the conventional blanket-covered roll. The roll is said to be non-porous, which prevents any penetration of size into it. It is necessary to rebuff the roll every six to nine months, according to the speaker.

Another mill man reported that use of the synthetic rubber cover on the first roll has been unsatisfactory in his plant, but indicated that performance might be improved by rebuffing. The finishing roll was said to leave a little more size on the yarn, but the mill official reported that his plant is considering using synthetic rubber covering altogether on the back slasher rolls.

Slasher Waste

Mill No. 1. Regular section beam tickets are used and the operative places his initials on them. The section beams are given the number or position in which they are placed on the creel of the slasher, and defects that occur on each beam are indicated on the ticket.

The number of yards at the warper are also indicated and this is checked at the slashers. When tying in another set of beams on the slasher, about six to eight yards are processed without size.

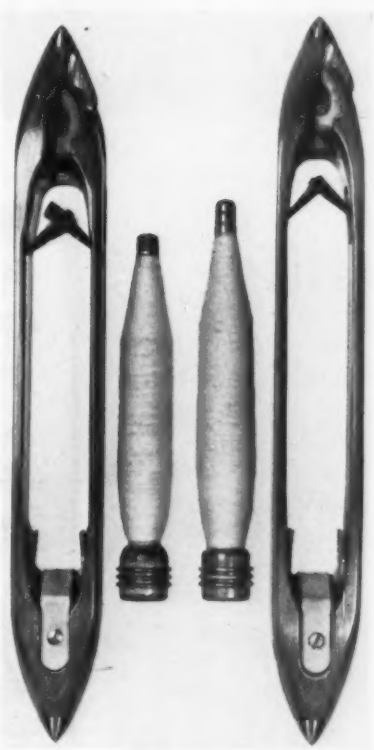
Slashers are equipped with variable speed drives which control the stretch. One per cent of stretch is inserted in the yarn at the slasher.

Experiments with storing size over the week-end are under way. On Saturday morning after stopping off the third shift, a half kettle of size is usually left over. It is placed back in the cooking kettle so that it may be heated easily on Monday morning. This heated size is mixed with the new batch that is made up on Monday morning.

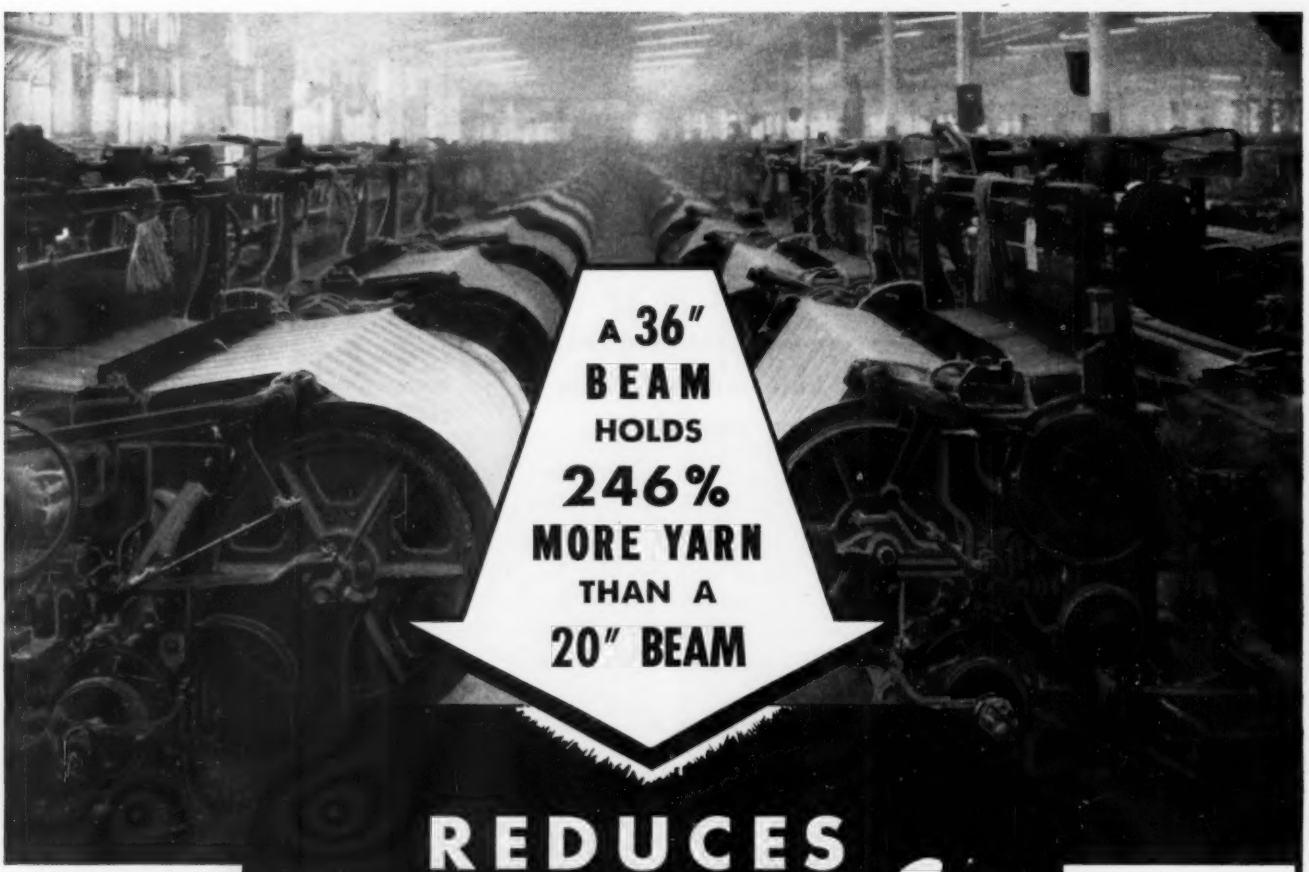
About three-fourths of a pound of a non-gelling agent is added to each 200 gallons of left-over size. Seventy-five gallons were kept over a week-end recently without souring. A set of sample warps were sized with this left-over size, without mixing it with new size, and the warps did not seem to be up to the usual standard.

Mill No. 2. This mill has a plan for checking every warp that runs out short. A check is made with the warper tender to determine the cause. Twelve to eighteen beams are run from a set on the slasher, and a waste percentage of less than one-half of one per cent is reported. This plant also reported leaving size in the storage kettle from Saturday to Monday at a temperature of 90° F. and using it without any difficulty.

Other mills indicated that: new warpers cause less waste than the old type due to more efficient stop



Courtesy, Steel Heddle Mfg. Co.
At left is a conventional shuttle that carries an 8" quill. On the right is a new shuttle which accommodates an 8¾" bobbin. For discussion, see page 123. Also, for description of shuttle see page 147 of November 1947 "Textile Industries."



REDUCES
LOOM STOPS, WARP TYING AND HANDLING 2/3

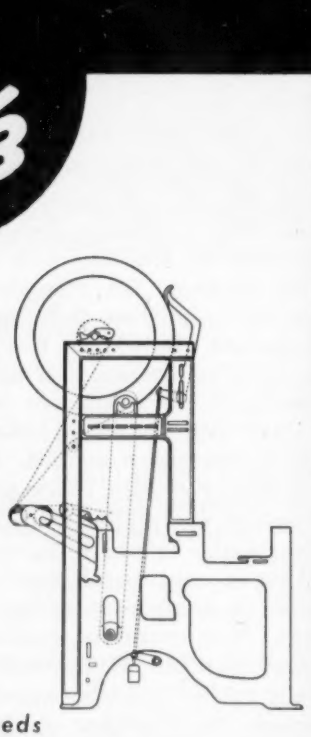
Switch to Bigger Beams for Bigger Profits

Step up slasher and weave room efficiency—cut costly beam handling and expensive machine stops by installing larger beams. You will pay for the change-over with increased production.

If you're now using 20" beams, loom stops for tie-ins will be reduced by over 2/3 when you switch to 36" beams. A change-over from 24" beams to 36" beams cuts stops in half.

We'll be glad to show you how larger beam heads will improve your production schedule. Our expertly machined, high grade heads are mounted on well-seasoned barrels . . . sealed against moisture . . . built for long life.

BIGGER BEAMS ADAPTED TO FIT ANY WEAVE SHED



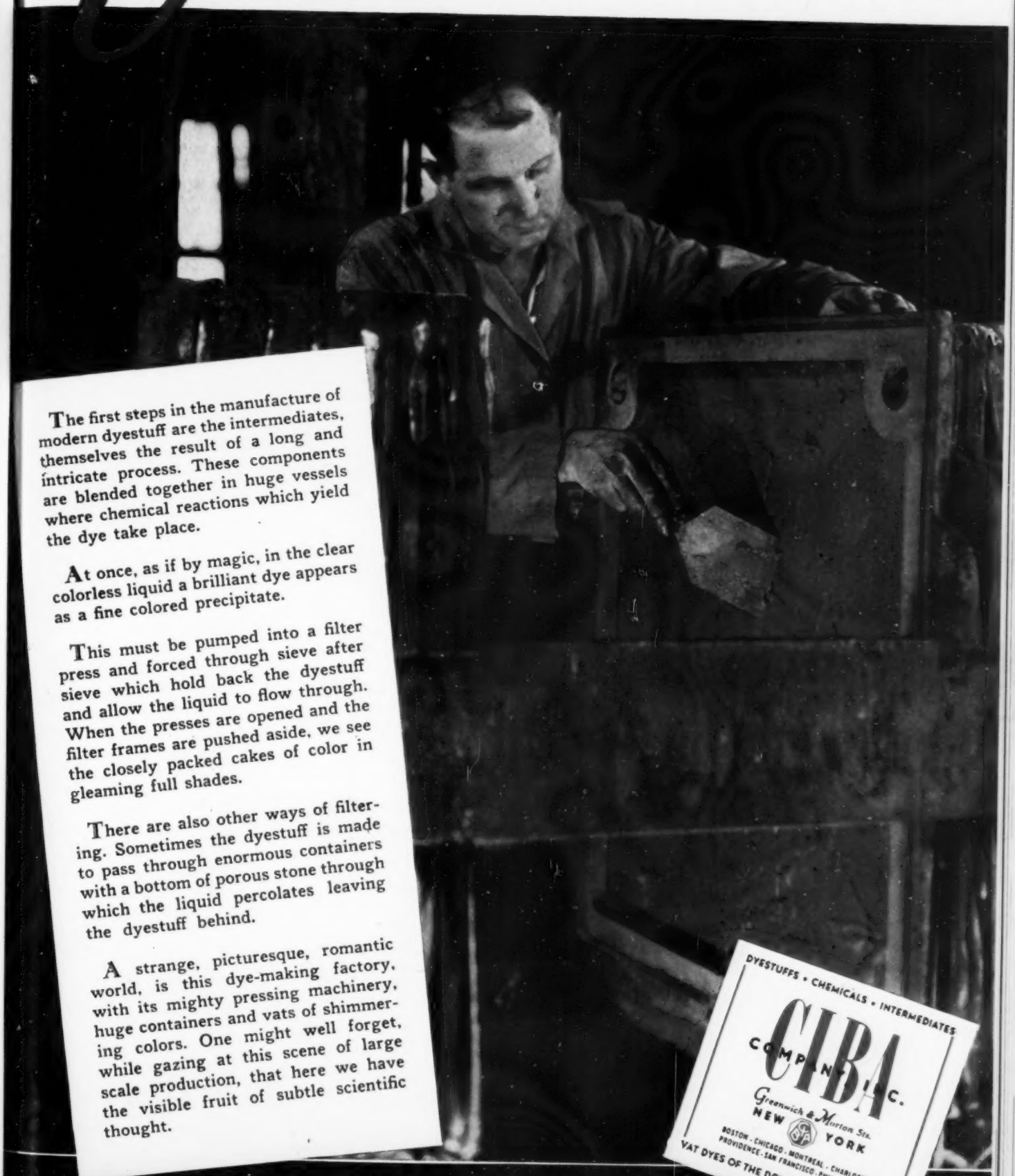
In weave sheds with narrow alleys bigger beams can be easily installed on top of the looms at little additional expense.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

Ciba DYESTUFF GLIMPSES



The first steps in the manufacture of modern dyestuff are the intermediates, themselves the result of a long and intricate process. These components are blended together in huge vessels where chemical reactions which yield the dye take place.

At once, as if by magic, in the clear colorless liquid a brilliant dye appears as a fine colored precipitate.

This must be pumped into a filter press and forced through sieve after sieve which hold back the dyestuff and allow the liquid to flow through. When the presses are opened and the filter frames are pushed aside, we see the closely packed cakes of color in gleaming full shades.

There are also other ways of filtering. Sometimes the dyestuff is made to pass through enormous containers with a bottom of porous stone through which the liquid percolates leaving the dyestuff behind.

A strange, picturesque, romantic world, is this dye-making factory, with its mighty pressing machinery, huge containers and vats of shimmering colors. One might well forget, while gazing at this scene of large scale production, that here we have the visible fruit of subtle scientific thought.

DYESTUFFS • CHEMICALS • INTERMEDIATES

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NEOLANS ON WOOL — SIMPLE PROCESSING . . .
EASY SHADING . . . LEVEL DYEING . . .

Reeves Makes it Right!

The REEVES Variable Speed Transmission used on this 10 Can Dryer instantly delivers any desired speed within the range of 20 to 120 ypm. Variable speed is essential in the drying process due to changes in temperature of dry cans, moisture content and weight of the cloth being dried, desired dryness and synchronization with other finishing machines. The dryer is built by Morrison Machine Co., Paterson, N. J.

PROVIDES ACCURATE SPEED CONTROL TO COMPENSATE FOR VARIATIONS IN TEXTURE, TEMPERATURE, WEIGHT AND MOISTURE

Profit from the experience of other mill operators. Add extra *productive* time to the work week by equipping your machines with accurate REEVES Speed Control.

Applied to virtually any type machine used in the preparation, fabrication, spinning, twisting or finishing of yarn and cloth, REEVES Variable Speed Drives provide the infinite, stepless speed adjustability that assures sustained, high-speed production of finest, uniform quality.

No matter how fast or how frequently operating conditions may change—due to variations in texture, weight, temperature, moisture content or operator skill—the *exact* speed needed to perform each operation most efficiently can be obtained *instantly* with REEVES Speed Control—without time-consuming stops or slow-downs.

The complete REEVES line consists of three basic units, all manufactured in a wide range of designs, sizes, capacities and speed ratios—with manual, hydraulic, mechanical or completely automatic control. A REEVES engineer who knows the textile industry and its problems from the ground up will be glad to consult with you on your particular speed control requirements. Let us have him call on you, and also send you a copy of the comprehensive, 114-page catalog T-450A.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Accurate Variable

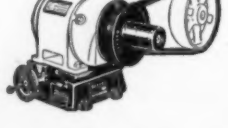
REEVES Speed Control

Gives the Right Speed for Every Job!

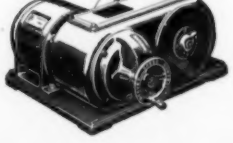
THE THREE BASIC REEVES SPEED CONTROL UNITS

VARIABLE SPEED TRANSMISSION for providing infinite, accurate speed flexibility over a wide range —2:1 to 16:1. Sizes—fractional to 87 hp.

VARI-SPEED MOTOR PULLEY provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 15 hp.



MOTODRIVE combines motor, speed varying mechanism and reduction gears in single compact unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 15 hp.



motions; moving the creel back about eleven feet from the warper is an advantage; combination beams show a variation in yards at the warper and slasher; dyed beams must be longer than gray beams when run together on the slasher; and ball bearings are helpful on slashers when running dyed section beams, but it is still necessary to attach weights to each beam to prevent slack.

Use of Long Quills

One mill reported changing to long quills on thirty 58-inch modified "D" looms, but found it necessary to buy new shuttles. The new shuttle is 14 inches long and the shuttle eye has been moved up one-fourth of an inch. The only other changes necessary were on the battery and shuttle box.

A manufacturer's representative indicated that it is possible to put 15 per cent more yarn on the 8¾-inch quill than on the 8-inch type. The shuttle eye is moved up one-fourth of an inch and the length of the shuttle is increased the same amount. This change is not recommended for yarns higher than 30s; however, a mill on 40s yarn is having satisfactory results with this arrangement.

Anchoring Looms

According to reports, three types of material are available for use under a loom to anchor it to the floor; synthetic rubber, felt, and cork. It was stated that one mill is running 9000 looms with felt pads under the loom feet with an estimated saving of 15 per cent on repair costs. The average life of a felt pad was said to be five years. When a pad becomes as hard as the floor, it is said to be no good.

Another mill mounted C&K dobby looms on felt pads in 1935 and these looms are still running good, according to a report.

Top Roll Covers

Three mills reported varying results with different types of roll covering for top rolls on drawing and roving frames. One mill uses cork-covered rolls on drawing for counts of yarn ranging from 24s to 30s. Another mill uses metallic rolls on drawing and with good results. A third mill reported 1¼% more variation with cork-covered top rolls when compared with the synthetic type.

Nylon Bolsters

"Pat" Desmond of Watson & Desmond, Charlotte, N. C., discussed results of tests with nylon bolsters and ball bearing rolls. A saving of 11% in power at 9,000 rpm and 13% at 10,000 rpm was the result of a test conducted recently with nylon bolsters. The oil was said to remain clean.

Roll Pickers

One mill man reported on the use of pneumatic roll pickers for carding and spinning. The slow-speed type is used in the card room for roving frames and the high-speed type is used in the spinning room. Twelve frames or twenty-four sides of spinning are picked once every eight hours. This plant has found that it is best to pick rolls while the frames are running; however they pick rolls both running or stopped.

Standardization of pH Scale Recommended

In view of the increasing need in science and industry for accurate determinations of acidity, the National Bureau of Standards is recommending the universal adoption of a single standard pH scale, analogous to the International Temperature Scale. It is proposed that the pH assigned to solutions of buffer substances, distributed by the Bureau as standard samples, be taken as the fixed points on this standard scale.

The several convenient pH meters now available commercially enable precise determination of pH values in such varied media to be made with ease and rapidity, but these values are based upon a scale fixed by the pH assigned to the standards with which the instrument has been calibrated.

In an effort to encourage standard procedure in pH measurements, the National Bureau of Standards is now supplying four buffer materials in the form of standard samples of certified purity. These substances are acid potassium phthalate, potassium dihydrogen phosphate and disodium hydrogen phosphate (intended to be used together), and borax. The certificates furnished with these compounds specify the pH of certain aqueous solutions of the sample, which can provide fixed points on a pH scale.

In order to assign exact values to these fixed points, it was necessary to set up a scale based upon some suitable definition of pH. A consideration of the advantages and limitations of several scales led to a choice of a modified activity scale as most convenient and practical for general use. Although the activity of a single ionic species can be simply defined only in very dilute solutions, the influence of the hydrogen-ion activity in chemical equilibria is of far-reaching importance.

The pH of the NBS standards is derived from measurement of the electromotive force of cells without liquid junction, in which they are used as electrolytes. These cells are specially designed, utilizing the highly reproducible hydrogen and silver-silver chloride electrodes.

Computation of pH is based upon several reasonable assumed relationships between ionic activities and mean activities. These assumptions are found to give identical values for dilute solutions. The scale thus obtained approaches a true scale of activity for solutions of low concentration; at higher ionic strengths it is best regarded as a consistent scale which necessarily rests upon an assumption not subject to experimental proof.

Lubrication is the Lifeblood of Twisting Spindles

and

The WICACO SPINDLE OILING MACHINE GUARANTEES PROPER LUBRICATION!

IT flushes out the old oil and replaces it with fresh oil in one simple operation. It saves time, labor and power, and guarantees proper oil level at all times.

This machine is used successfully in many mills producing wool, cotton, silk and rayon.

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SPECIALIZING IN TEXTILES FOR OVER ONE-THIRD OF A CENTURY

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COST SYSTEMS SPECIAL REPORTS
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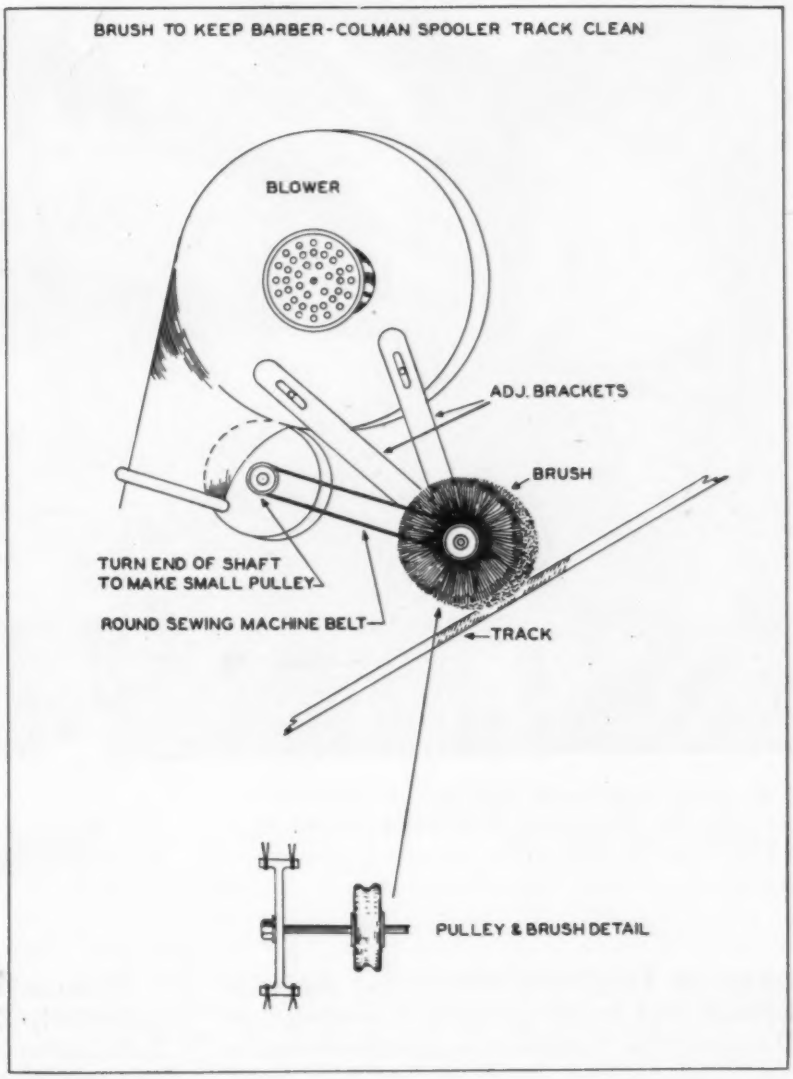
GREENVILLE, S. C. FALL RIVER, MASS.

How OTHER MEN Manage

Automatic Brush for Barber-Colman Spoolers

This idea for a spooler brush was submitted in the "kink" contest that ended September 30.

Another contest started in November. For rules, see page 129 of this issue.



EDITOR TEXTILE INDUSTRIES:

The traveler on an automatic spooler moves along on a straight-gear track as it makes the tying cycle. Lint collects in the teeth of this track, becomes packed hard, and clogs the gear. If the track is not kept clean, the traveler will not operate freely, therefore it is usually brushed out manually.

The accompanying illustration shows an attachment which does the job automatically on Barber-Colman spoolers while the spooler is in operation. The brush hub is made by turning a steel core on a metal lathe. The brush core is 2¾" in diameter and has a ½" hole in the center. The core has ⅛" holes that are filled with stiff bristles, and the adjustable bracket is attached to the blower housing on the spooler. The power take-off is from the blower driveshaft.

A round sewing machine belt can be used for power transmission on two small grooved pulleys. It is possible to use a regular V-belt in lieu of a sewing machine belt. The brush may be easily adjusted to the correct depth to properly clean the track, and as the bristles wear shorter, the brush may be set closer to the track, thereby insuring long life for the brush while it serves the purpose.

This device not only helps keep the track clean, but also reduces maintenance costs and loss in production due to stoppages resulting from dirty or clogged tracks.

CONTRIBUTOR No. 8017

Question on Spindle Speeds

EDITOR TEXTILE INDUSTRIES:

We are interested in the subject of maximum spindle speeds, especially as it pertains to ring spinning. We are running 60s yarn.

Our frames are completely equipped with ball bearing spindles, ball bearing roller necks, and ball bearings on the cylinders. With the foregoing equipment, we are of the opinion that spindle speeds up to 22,000 rpm should be attainable. We are apparently limited by the danger of travelers burning off at this speed.

If we spin 60s at 22,000 rpm spindle speed, and use a 15/0 ring traveler, with a ring diameter of

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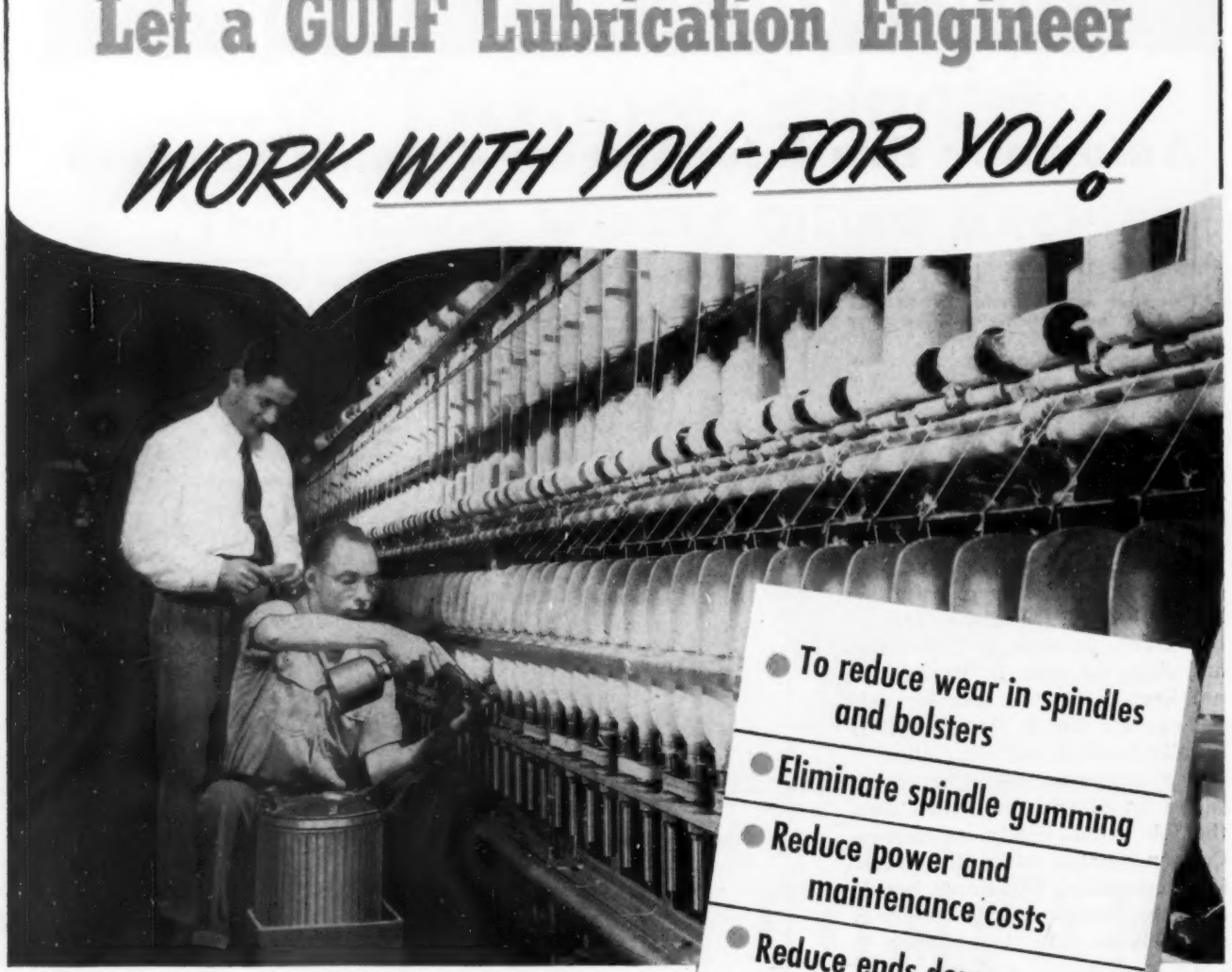
To reduce wear in spindles and bolsters
Eliminate spindle gumming
Reduce power and maintenance costs
Reduce ends down

The Gulf Lubrication Engineer "in the picture checks the lubrication of spinning frames in a prominent southern mill.

SCORES OF LEADING MILLS find the wide experience and broad practical knowledge of Gulf Lubrication Engineers invaluable—a source of real down-to-earth solutions for their maintenance and lubrication problems.

One of these trained specialists can help you eliminate guesswork in lubrication—assist you to get the full advantage of lubricants as engineering materials. For he is thoroughly familiar with all factors which affect lubrication efficiency—and he makes available a complete line of quality oils and greases designed for service under widely varying operating conditions, no matter how severe.

When he makes a recommendation of the right Gulf lubricant and the most suitable method of application, you can be sure of satisfactory results.

If you are not already doing so, get the benefits of this helpful engineering service. Call in a Gulf Lubrication Engineer today and ask him to give you specific cases of mills, similar to yours, who have reduced power and maintenance costs through improved lubrication. Write, wire, or phone your nearest Gulf office.

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GULF INDUSTRIAL LUBRICATION

1⅜", the traveler would have to run more than 6,000 feet per minute. Some ring traveler manufacturers have said that such a fine traveler would not run above 4,000 feet per minute without burning off.

The rate of fiber attenuation at such high speeds may be such that poor fiber selectivity would result, thus producing irregular yarn.

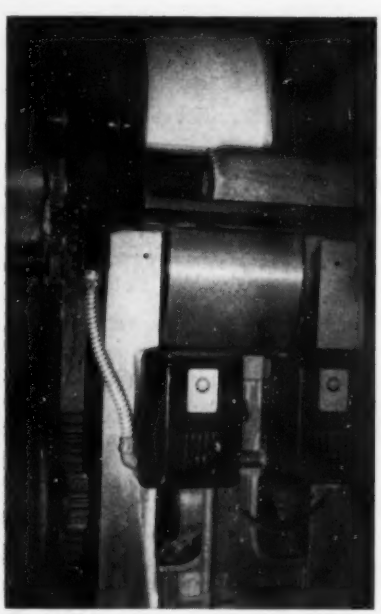
It would be interesting to know how these problems have been solved in America, if your readers care to contribute the information.

CONTRIBUTOR No. 7994
(India)

Stop Motion for Sliver Lappers

EDITOR TEXTILE INDUSTRIES:

We have installed electric stop motions and starting switches on all our sliver lap machines, with good results. The operation of our combers has been improved considerably by the new installation.



An electric stop motion installation.

When an end breaks down, a ground contact is made, and the magnetic switch will not return to the "on" position until the ground is cleared of the contact.

We have found that the push button switch is an important factor in the elimination of maintenance problems.

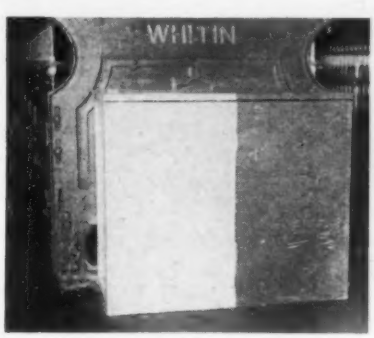
In order to make the installation, it should be remembered that it is necessary to have individual drive for each machine to utilize 550 volts with a magnetic switch. It is possible to reduce through a 12-volt 60-cycle transformer.

CONTRIBUTOR No. 8004

Color Coding For Waste Boxes

EDITOR TEXTILE INDUSTRIES:

We are experimenting with color coding for waste boxes in our spinning room, and would like to pass the idea on to others.



A color coded waste box.

The boxes we use are about 40 inches wide and 30 inches high. The inside width is about 12 inches, and there is a partition in the middle. One side is used for clearer waste, and the other for scavenger roll waste.

A lid, with hinges attached, is provided for the top. A round hole, about five inches in diameter, is cut through the center of the lid on each side of the partition.

Half the box is painted white, and the other half is painted olive drab. The white side is used to receive scavenger roll waste and the olive drab side is for clearer waste. These different colors aid in reminding operatives not to put both types of waste in the same container.

The colored waste box facilitates separation of the two types of waste, and also provides a seat for the spinner to take a few moments rest occasionally when the job is running good.

The use of this box enables us to quickly gather the scavenger roll waste for re-run, and also to gather up the clearer waste for disposal.

CONTRIBUTOR No. 8005

Yarn Conveyor

EDITOR TEXTILE INDUSTRIES:

Some mills have difficulties in connection with getting processed material to the next floor above or below in order to make it available for the next cycle of operations. A few mills have gone to the expense of having elevators installed to deliver the material to the next process on a different floor.

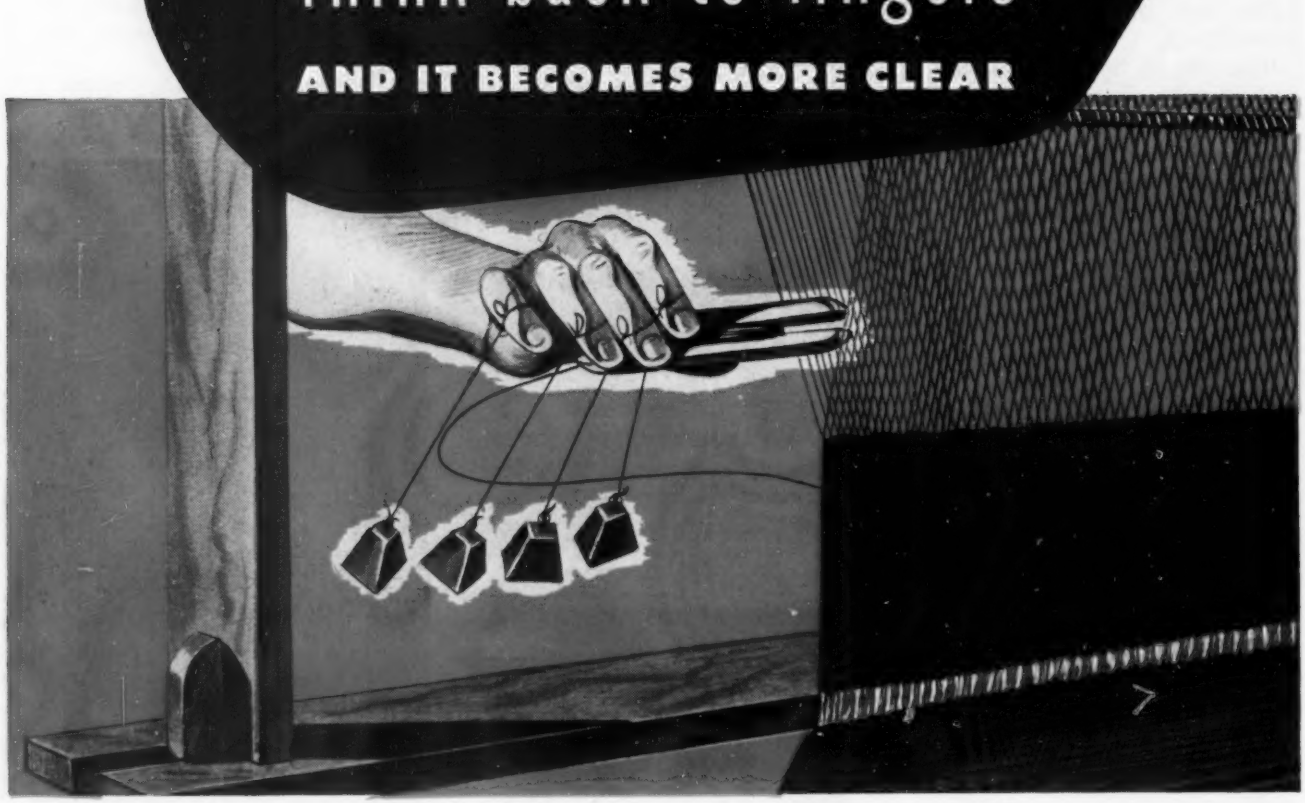
The American Yarn & Processing Co., Mount Holly, N. C., has overcome the material handling problem from one floor to another by installing a yarn conveyor. This improvement carries cones of yarn from the winder room on a second floor, to the gassing and warping department on the first floor.

The improvement consists of double pulleys placed about eighteen inches apart on two shafts. One shaft rests in bearings on the first floor, and another shaft rests in bearings on the second floor. It is driven by an electric motor at this point. (See illustration above.)

Double belts connect these two

Think back to fingers

AND IT BECOMES MORE CLEAR



Every moving part in your textile mill which is heavier than it needs to be is costing you money.

Suppose a ball and chain were tied to a weaver's fingers. The drag would show up most when the hand changed direction. Energy lost in stopping and starting is greater in heavy objects than light objects and it costs money.

That's why American Magnesium parts are worth their lack of weight in gold. Magnesium is 35% lighter than aluminum, 75% lighter than steel. Furthermore, it is corrosion resisting and non-warping. American Magnesium is being successfully used for a long list of textile parts. See that your machinery builder gives you the full economy of American Magnesium's lightness. ALUMINUM COMPANY OF AMERICA, sales agent for American Magnesium products, 1704 Gulf Building, Pittsburgh 19, Penna. Sales offices in principal cities.

TEXTILE EQUIPMENT BUILDERS

Write for your copy of "Magnesium in the Textile Industry". Contains full information on textile applications, advantages, and semi-fabricated forms.

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double pulleys and slats are bolted on the outside of these belts at regular intervals. Two spikes are placed on each of these slats. The spikes will fit the paper cones on which the yarn is wound.

The yarn is placed on these spikes on the second floor, and as the motor turns the pulleys and belts, the cones are moved downward until they are just above a box which is located beneath the lower pulleys. From this point it falls by its own weight into the box.

CONTRIBUTOR No. 8001

RPM Counters Used on Cards

EDITOR TEXTILE INDUSTRIES:

We have found that the installation of counters on calender rolls helps provide data for comparing the theoretical production of cards with actual production. Records may be kept by tabulating the figures on the RPM counters so that past and future performance of machines and operatives may be compared.

The counters are of help in estimating what actual production should be, if allowances are made for stoppages for grinding, setting, and stripping. They also stimulate more incentive for the operatives to do better work with regard to keeping the cards in operation. The operatives know that the overseer is familiar with grinding schedules and the time required to perform such operations.

Our plant has converted some surplus used loom pick counters to RPM counters for our cards, and we are obtaining good results and performance.

CONTRIBUTOR No. 7934

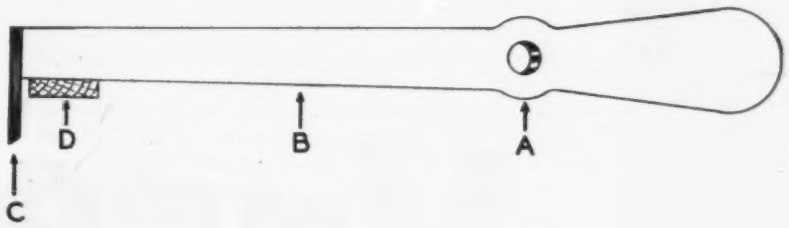
Question on Choked Trumpets

EDITOR TEXTILE INDUSTRIES:

We would like to have the opinion of your readers as to the effects of choked trumpets on spinning frames processing cotton.

CONTRIBUTOR No. 7471

Attachment for Box Feed Comb Aids in Processing Roving Waste



EDITOR TEXTILE INDUSTRIES:

Nearly 50 years ago the late Thomas A. Edison stated, "Hardly any piece of machinery now manufactured is more than 10 per cent perfect."

No doubt Mr. Edison had in mind the designs and defects of machinery now being manufactured. For instance, there are thousands of Bramwell automatic feeders now in operation in woolen and cotton mills, and when roving waste is run, the waste collects around the comb blade. The machine must be stopped and the tender is supplied with a long hook to pull roving waste off the comb. This is particularly troublesome when running wool or rayon.

I need not point out here that a loaded comb will cause lighter finished work. When wool or rayon waste is run and the comb is loaded, it will stop the lifting apron.

The accompanying sketch shows the cross section of an automatic box feed comb, which is a sure cure for this trouble. It will help turn out an even strand and, of course, more production.

Referring to the sketch: A is the oscillating comb shaft: B the arms; C the comb; D is a small hardwood board about ½-inch in thickness that is bolted to each arm. A small hand drill should be used, and the work done when grinding the card.

By examining the sketch, it can be seen that the comb is very narrow, and as it oscillates the long strand of roving waste will circle or wind around the comb blade until it is so loaded that the comb

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ATTENTION!!

$100 for Best Kink or Short-Cut

(Ends January 10, 1948)

ONE HUNDRED dollars will be awarded the contributor who furnishes the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea by January 10. The contest may be entered by any reader of this magazine, but the kink must not have been published elsewhere.

In sending in ideas, give complete description and where possible accompany description by sketch. Finished drawings are unnecessary. Participants are not restricted as to number of kinks submitted for consideration.

Only one award will be made, but non-winning contributions will be paid for at regular rates if used. Advise in original correspondence if participant's name may be used, or if contributor number is preferred.

All entries must be postmarked not later than midnight of January 10, 1948. Address: Editor "Textile Industries," 1020 Grant Building, Atlanta, Georgia.

For example of a kink, see item on Barber-Colman Spooler Brush, appearing on page 125, this issue.

Vanesta

The Starch Stabilizer

Stops Gelling
Improves Flow
Gives Uniform Consistency

Sample on request

R. T. VANDERBILT CO., INC.

230 Park Avenue, New York 17, N. Y.

and lifting apron are stopped. By placing the small board behind the comb as indicated in the sketch, it is evident that no matter how long the waste strands, they will not wind around the comb.

I know the boys will appreciate this information, for if a small board is bolted behind the comb blade as shown, production is gained and the work is more even. A good practice when running roving waste, is to open the waste as much as possible. Then add waste and raw stock alternately in small quantities. If this practice is followed you will not have trouble running roving waste, no matter how long the strands of waste are.

WASH (R. I.)

"Sooty" Bobbins Present Problem to Spinner

EDITOR TEXTILE INDUSTRIES:

During the fall and winter of every year we are troubled with black "sooty" spinning bobbins. Only the bottom half of the bobbins are soiled.

We use a filling wind on our bobbins and the soiled condition is most prevalent on those yarns which run longest before doffing. This condition accompanys a change of weather and usually occurs at night and during early morning hours just after 6:30 A.M. We run two 8-hour shifts. There are many days and nights when we have smoke in the air but the yarn is not affected until the weather changes.

We have tried blowing the spindle rail, whorls, etc., with compressed air once each day, and also have changed the oil in the spindle bases. This has helped tremendously but has not yet solved the problem completely. The "sooty" condition which causes black streaks in the knitted fabric, has been analyzed as oil.

This is an old problem that has been encountered by other mills, and I would appreciate any assistance that others might contribute.

CONTRIBUTOR No. 8023

The Master Mechanic's Place in the Plant

APPEARING first in "Southern Power & Industry," another W. R. C. Smith publication, this article is presented both to indicate the importance of the master mechanic's position in the textile plant and to show that cooperation between all departments is essential. Though this article was prepared especially about the master mechanic, supervisors and assistant supervisors in the various departments of the textile plant could well substitute their own positions when reference is made to the master mechanic. Comments pro and con are invited.

The master mechanic can make or break new products. He runs the tests, he directs maintenance, he listens to production complaints.

MOST SMART industrial salesmen try to keep on the good side of the master mechanic. They know he can "make or break" their product. They respect him too, because they know that most of their real understanding of their own products comes from him. He and his crew constitute the salesman's test department.

Unlike the salesman, however, members of the plant force do not always understand the master mechanic and the part he plays. Very few in-plant feuds can be as destructive as constant war between the master mechanic, the purchasing agent, and the design engineer. In fact, such ill feeling is so calamitous that it is seldom allowed to continue long before the axe falls somewhere along the line. A genuine cooperative spirit is necessary to best over-all economy in purchasing.

The master mechanic is seldom a trained technical engineer, and even less frequently does he have direct experience in the purchasing department. Nevertheless, neither the purchasing agent nor the engineer can get very far without drawing freely on the experience and records accumulated in the repair department. In fact, the principal function of both purchaser and engineer is to provide the maintenance and operating crews with the best material for their needs. And selection of that best material cannot be accomplished without the master mechanic's full cooperation and help. He is an important member of the buying team.

The mechanic must be a man of long experience and training. He is likely to be older than many other key men in the organization. If his experience has been too closely confined to micrometers and wrenches and his interest in other workmen has been slight, he may "take little stock in the actions of those young upstarts that try to tell him how to run his plant." On the other hand, if a genuine interest in apprentices and young employees has been a part of his aging process, there is strong possibility that he helped both the engineer and purchasing agent to gain the knowledge that placed them where they are.

Assuming a mutual spirit of good feeling and a genuine desire to cooperate, there are many specific services the master mechanic can render to assure a wise buying program.

Testing

The purchasing agent frequently sees a need for trying a new product even though the old one is satisfactory. He usually asks the master mechanic to try a small quantity. Such tests are important. Better materials are constantly being developed, and a live company should spend some money experimenting.

To get results the master mechanic will need to give such

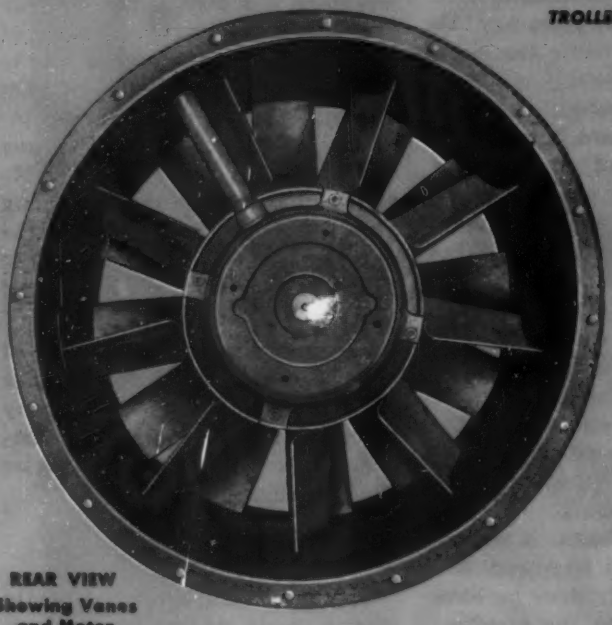
Announcing

"SERIES 1000"

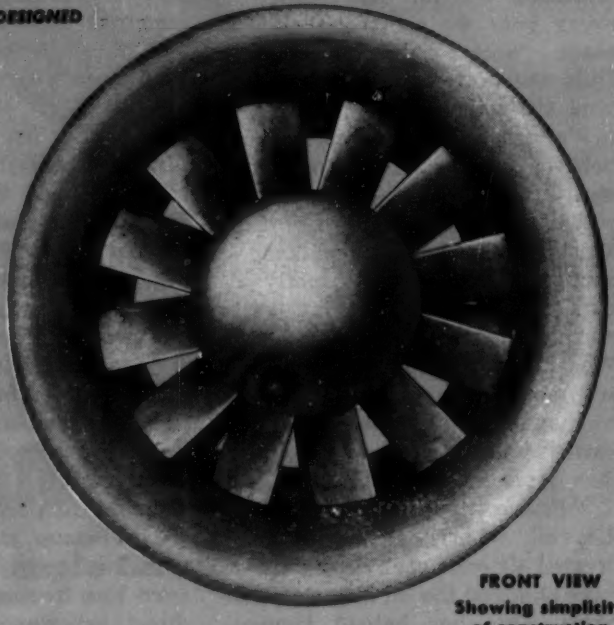
JOY

AXIVANE FANS

TROLLER DESIGNED



REAR VIEW
Showing Vanes and Motor



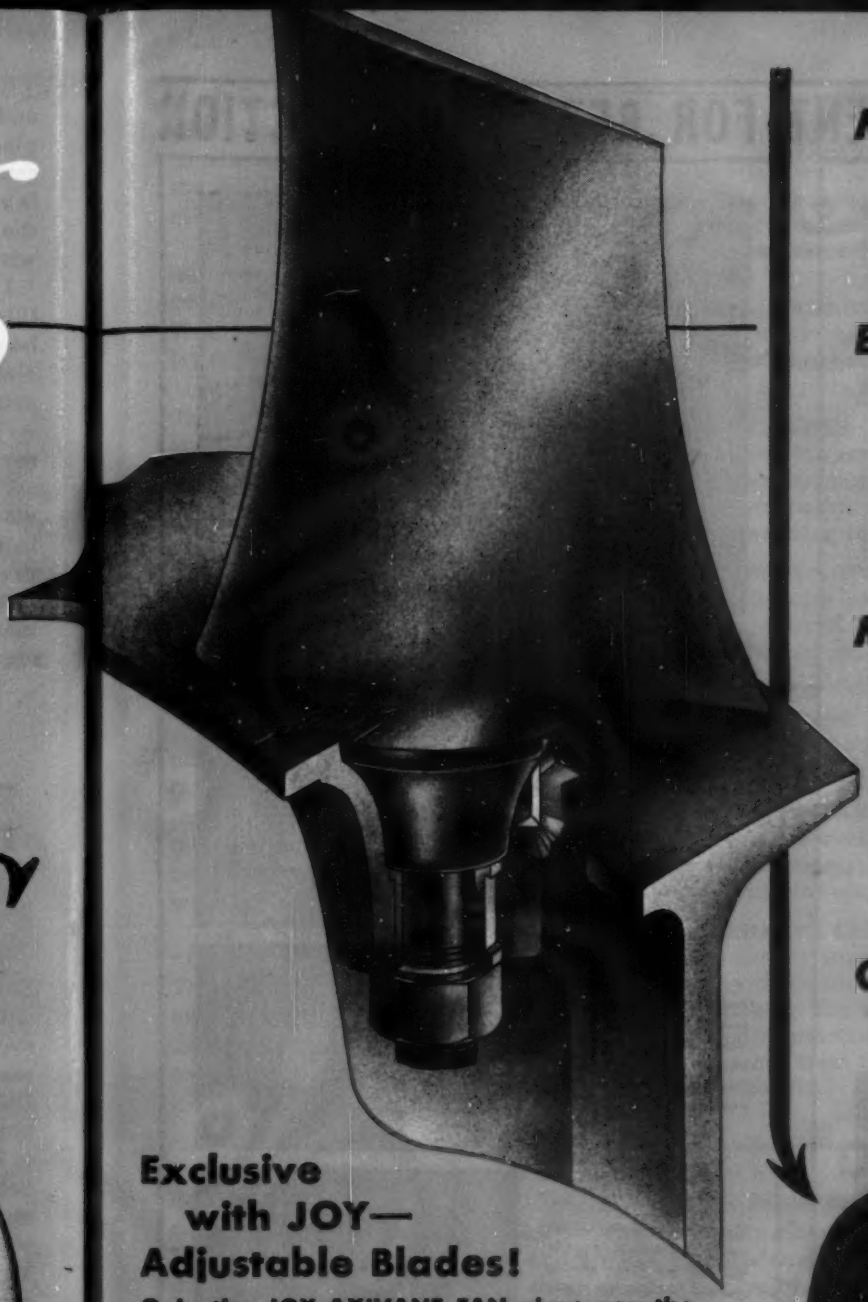
FRONT VIEW
Showing simplicity of construction

A complete family of fans to cover every general industrial use

The "Series 1000" is a stock line with an unequalled range in sizes and capacities.

Volumes up to 100,000 C.F.M. Pressures up to 9.6" W.G.
Housing Diameters 18" to 60"

W & D 11400



MORE COMPACT

Joy AXIVANE Fans are built around the motor. The fan housing becomes an actual part of the duct system, producing a compact design impossible with a centrifugal fan. The compact construction insures lighter weight.

EASIER TO INSTALL

Because of its in-line design which makes the Joy AXIVANE Fan an integral part of the duct system, heavy foundations, complicated duct off-sets and elbows, drives, and guards are eliminated. Joy Series 1000 AXIVANE Fans can be installed quickly and easily, even by relatively inexperienced or unskilled labor.

MORE EFFICIENT

Stationary straightener vanes, located immediately behind the rotor, partially recover the rotative energy imparted to the air by the rotor, and re-establish axial flow to the air leaving the vanes. This eliminates excess turbulence, increasing efficiency by decreasing pressure loss.

The AXIVANE Fan takes advantage of the most aerodynamically efficient blade and straightener vane design.

QUIETER

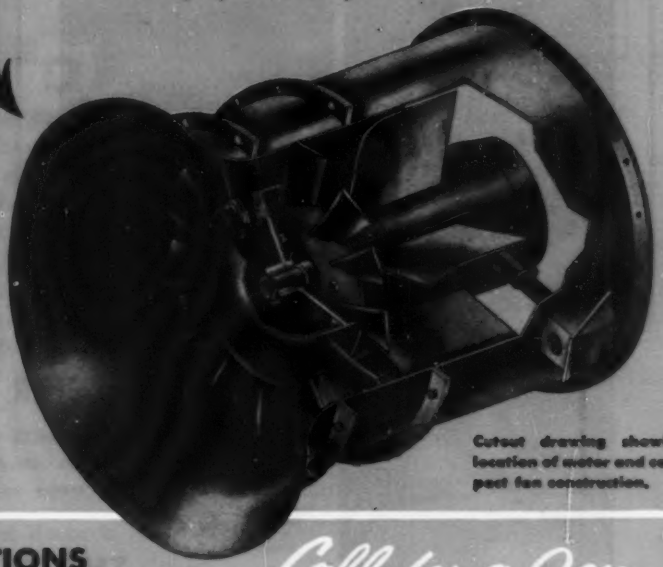
For equal weight and space the AXIVANE Fan is quieter than the centrifugal type fan for any specific duty.

Exclusive with JOY— Adjustable Blades!

Only the JOY AXIVANE FAN gives you the *extra* FLEXIBILITY of ADJUSTABLE BLADES.

ADJUSTABLE BLADES, a Joy development, insure the ultimate in performance flexibility. The factory blade setting can be quickly changed to provide either a wide pressure range for any particular volume or a change in volume simply by loosening a lock nut.

ADJUSTABLE BLADES permit on-the-job correction for miscalculation of duct resistance or poorly installed duct work.



Cutout drawing showing location of motor and compact fan construction.

TYPICAL JOY AXIVANE FAN APPLICATIONS

Apartment Houses
Aircraft
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Auditorium Ventilation
Automotive
Boiler Draft
Caves
Chemical Plants
Cleaners
Cooling Towers
Dehumidifiers
Diesel Engine Cooling
Dryers
Dust Collectors
Evaporative Condensers
Fan Heating Systems
Filtering Systems
Generator Cooling
Grain Drying
Hay Driers
Hair Dryers
Hospitals
Hotels
Humidifiers
Kitchens
Laundries
Mines
Oil Burners
Pharmaceutical Mfg.
Pneumatic Conveyers
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Schools
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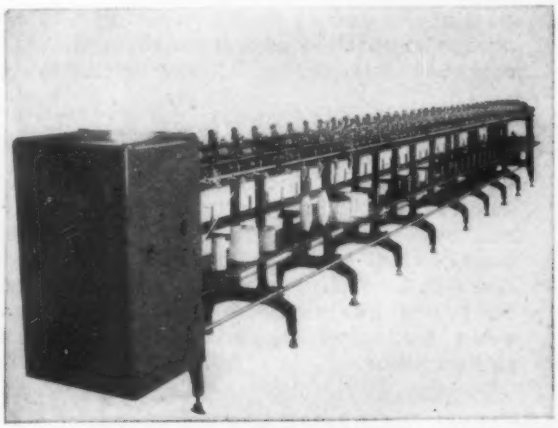
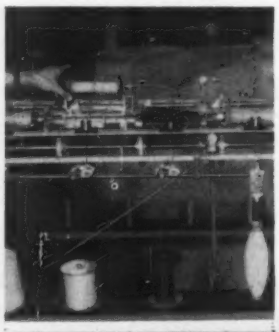
SIPP-EASTWOOD EQUIPMENT FOR BETTER PRODUCTION



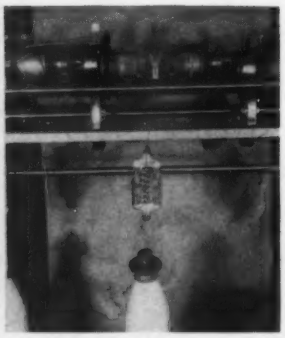
This new Sipp-Eastwood Winder Redraw makes possible smoother traverse and higher speeds than with conventional redraws. The speed is limited only by the strength of yarn —500 yards per minute or more.

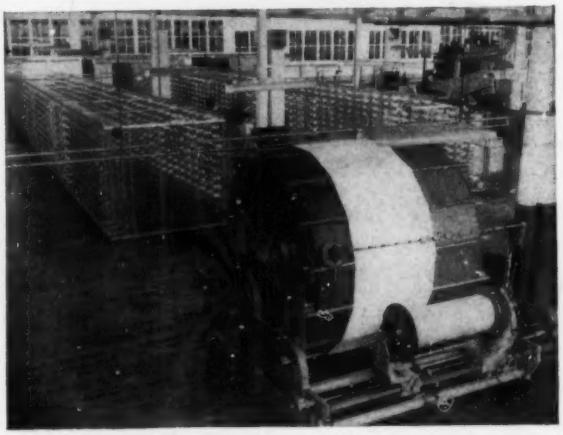


1—Quick, easy doffing. Note self-opening spindleless attachment. Self threading alsimag guide and revolving pulley tension.

2—Improved drive allows for quick changes of traverse, speeds and warps.

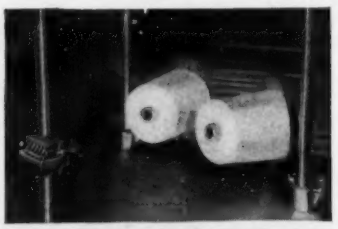
3—(Below) Washboard tension. Our standard gate tension is particularly adapted for redrawing nylon.



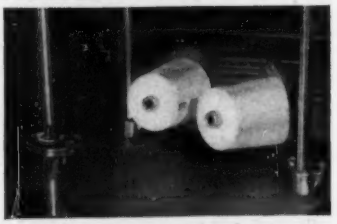


Sipp-Eastwood Over-end Magazine Cone Creel and Horizontal High Speed Warper for high speed warping from cones, spools, tubes, or pirns.

1—Our gate type creel tension of hardened steel, gray satin finish, chromium plated to resist wear.



2—Pulley type creel tension. Retarding action is obtained by friction applied to the rotating members — not to the yarn.



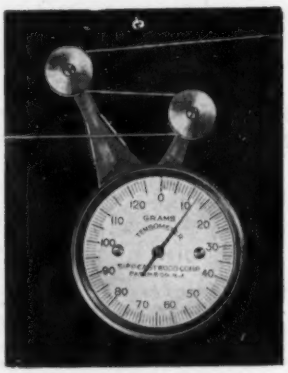
3 — Washer type creel tension. Employs double set of washers, giving perfect tension for fiber yarns, as well as for fine denier flat yarns.

THE DENSIMETER

The Densimeter measures density of cops, quills, spools, and other packages. Used in conjunction with the Tensometer to assure uniform density of packages.

THE TENSOMETER

The Tensometer—new sturdy model—measures tension of yarns and aids in the prevention of seconds in woven fabrics due to uneven tensions in warping, winding and quilling.



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tests his personal attention. The tests must be thorough, fair, and conclusive. His reports must tell the whole story in an understandable manner.

He will need the cooperation of his associates, both operators and repairmen, to get a fair answer. That may take some selling and a lot of explaining.

He will need to thoroughly understand the manufacturer's instructions—be doubly sure that equipment or material is properly applied, properly installed, and properly used. The new product may be very different from the one being used.

In testing the product he should take full advantage of the manufacturer's claims. If recommendations say, "Oil once a week," he should not oil every day. The new product must be given every opportunity to save the company money. He should never depend on memory but should keep notes on performance, repairs, failures, weaknesses, and good points.

Heavy maintenance does not necessarily indicate a poor product. The heavy maintenance may be overbalanced by improved operation and production. Over-all costs constitute the important guide.

Cooperation Aids Purchasing

Table showing how the master mechanic works with other department heads to promote better purchasing procedures and aid in attaining high over-all economy.

GENERAL MANAGER
The master mechanic helps the plant manager on long range planning of purchases on major repairs and plant reconditioning programs. Suggests replacements of obsolete items.

CHIEF ENGINEER
He gives the engineer benefit of his experience and records in selection and arrangement of equipment to reduce maintenance and improve production. Arranges trials, checks, and tests to help engineer in specifying equipment.

PURCHASING AGENT
He schedules requirements and gives purchasing agent ample notice on difficult purchases. Tries new products; and reports on service from old and new items.

STOREKEEPER
He helps watch stocks to see that they are adequate and yet not excessive. Gives notice of unusual needs, and helps use up "dead" stocks. Helps receiving clerk check condition of items as received.

PRODUCTION MANAGER
He tries to work out changes and improvements needed to help production. Cooperates to see that lack of maintenance materials does not interrupt the operating schedule.

MAINTENANCE CREW
He directly supervises work of maintenance men and sees that necessary materials are on hand for each job as scheduled. Guides their thinking and encourages over-all economy; discourages easy maintenance practices that may lead to production loss or excess cost. Teaches them to make fair tests and keep accurate records on products bought.

Avoid Prejudice

We all tend to resist change; we do not like for our routine to be changed. This fact has a strong influence on workmen's likes and dislikes. The master mechanic can help by working out procedures to make disagreeable tasks more pleasant. Perhaps the schedule may call for complete removal of all paint before repainting. Then the workmen would praise a paint that is easy to remove.

Complaints

A master mechanic who never complains to the purchasing department is not tending to his business. Poor product performance should be reported at once. Reports must be thorough and conclusive. The purchasing agent must have the necessary data to "go back at" the vender. He needs facts and figures, dates and diagrams—no guesses.

Also the vender should be given fair, courteous consideration when he tries to settle the complaint. The salesman sincerely wants to make the products satisfactory; he wants the mechanic to be his friend. When a mechanic calls in all of his assistants to put pressure on the salesman, he is taking an unfair advantage. No one can do his best under pressure. It is only natural to resent being ganged-up on. Certainly, no sales engineer can listen to the complaints of six men at one time and give a true, helpful answer.

Stores and Records

Perhaps the master mechanic's most important aid to a smooth purchasing schedule is careful planning ahead to avoid unnecessary rush orders.

Even in the very small plant a certain stock on hand is essential. and in the larger plant the local stock usually reaches the extent of a stock room and storekeeper. Constant familiarity with that local stock allows the master mechanic to recommend reordering whenever a certain supply approaches the agreed minimum.

Unfortunately, there are many requirements that do not follow a regular schedule. The master mechanic is always foreseeing and planning extraordinary repairs. It is these unusual, quick demands that give the purchasing department a headache. All major overhauls should be plotted well in advance and supply requirements listed.

Given an advance list, the purchasing agent will know at once what needs to be ordered early, what can be had quickly from local supply houses, and what substitutes may have to be made. Frequently, also, such advance study of unusual demands will make it possible for the storekeeper to work off excess stocks that have

Merry Xmas to our many friends and customers in the Textile mills and

Thank You for the many orders in 1947 for the **Superior Cleaner,** and for your co-operation in the delivery and installation of these machines.

A happier 1948 is in store for those mills who have installed this cleaner for they will get cleaner cotton---(no motes, sand, leaf, metals, glass, rocks, seed, etc.)---for 1948 and years to come. And cleaner cotton means better carding, roving, drawing, better yarn and cloth.

Our Guarantee--

This machine must accomplish all we claim for it and prove entirely pleasing, or you can return it for full credit. Write today for complete data on this answer to your opening, cleaning and blending problems.

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ENGINEERS *(Licensees)* **MANUFACTURERS**

ATLANTA, GEORGIA

accumulated and gone dead. In all of these things the mechanic is vitally interested. He wants the right supplies at minimum expense. Telegrams, special expediting, and damaged parts all add to the expense of his department.

There is also frequent need for the mechanic to help the receiving department in determining the condition and suitability of goods as delivered. A bit of rust on a machinery part may mean nothing at all, or it may mean that a replacement must be ordered, and quickly.

Insurance

Another item that falls loosely under the head of purchasing is the plant contact with insurance companies. Generally the actual insurance policies are purchased by management, but the master mechanic has much to do with the rates charged and the service derived from all plant insurance policies.

His principal contact is with the inspectors of those companies: boiler inspectors, electrical inspectors, building inspectors, and frequently with engineers employed as arbiters on major claims. Friendly, business-like, intelligent relations with all these men will save the company money.

No Lone Wolf

It is very evident that the master mechanic is by no means a lone wolf. He is closely associated with and dependent upon a large group of employees. This association and interdependence is partially covered in the tabulation on page 135.

AMATEUR PHOTOGRAPHERS ATTENTION!!

You can tell a story with your camera. It may be a hint on machinery maintenance — it may be a "kink," short cut, safety or human interest shot.

Pictures accepted for publication will be considered as editorial material, and payment will be made for them. Give your name and address and enough information for a suitable caption.

Address: "Snapshot" Editor, "Textile Industries," 1020 Grant Building, Atlanta 3, Ga.

Comments About Spindle Adapters and Paper Bobbins

Subject Briefed: *Experience offered on the use of spindle adapters and tapered paper tube bobbins. One man advised that the chief difficulty with tapered paper tube bobbins is the tendency for the tubes to rise on the spindle. (This experience was presented at the Alabama discussion meeting which appeared in the November 1947 issue of* TEXTILE INDUSTRIES, *page 104.)*

EDITOR TEXTILE INDUSTRIES:

I have read with interest the opinions given on the use of tapered and straight-side paper bobbins, during the regular meeting of the Alabama Textile Operating Executives in Montgomery.

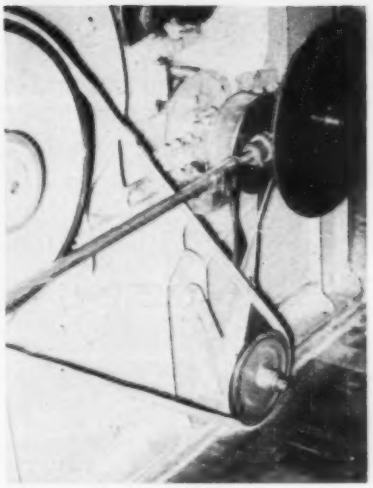
My own experience, based on an entire mill equipped with the tapered paper tube, is offered because it is somewhat different from one of the statements offered.

It is apparent that the difficulties had with the tapered paper tube are because of the radically different character of this type of spinning bobbin as compared to the wooden bobbin. To get the proper results, not only the superintendent, but the overseer, spinner, and doffer must all learn how to use the tapered tube.

The spindles must be kept clean and the tubes must be seated easily and not jammed on, as has always been the practice with wooden bobbins. A properly fitting tapered tube even gently seated on a clean spindle will never rise. In fact, the one possible objection to the tapered tube is its comparative harder doffing—its tendency to cling tighter to the spindle.

It is a difficult job for any mill executive to re-educate his help to the use of the tapered tube, but once he has accomplished this re-education, the returns will be worthwhile from the standpoint of efficiency, quality, size package, etc.

CONTRIBUTOR No. 8025



Speed Reducer

EDITOR TEXTILE INDUSTRIES:

Regardless of the many arguments that may be started when discussing the merits or demerits of slower licker-in speeds, we are using a satisfactory indirect drive for slowing down the licker-in.

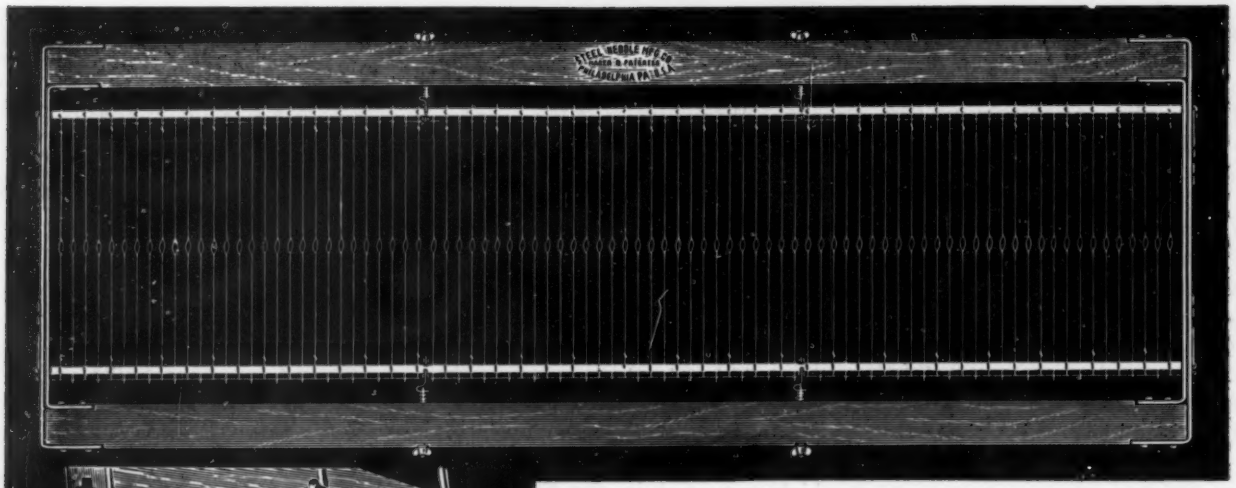
By driving from the cylinder to an idler pulley near the floor and then up to the licker-in pulley the speed of the latter is reduced enough to run long-staple rayon. This method cuts the speed in half on the regular Whitin card.

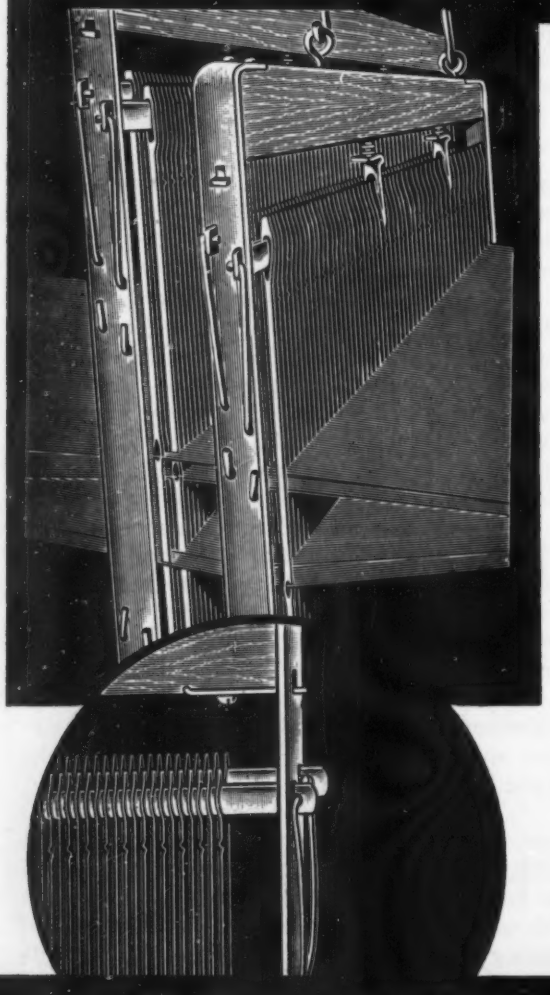
Experience proves that we get better results when running rayon by reducing the speed of the licker-in. The licker-in has a tendency not to lap when running slower, giving the cylinder more time to take the sliver from the licker-in.

Some mill men will recommend a high speed for the licker-in, but we find that a slower speed is best on rayon. We cut the speed down from the standard of 440 rpm to 230 rpm. The accompanying illustration shows our pulley arrangement.

Incidentally, it might be well to mention that we have found that a coat of shellac on metal surfaces prevents rust, and aids production of card sliver. We apply shellac to bonnets, and it provides a slick, smooth surface that eliminates trouble with sliver sticking to the parts. We also apply it to sampsons on drawing frames, and to metal top clearers on both roving and drawing frames.

CONTRIBUTOR No. 8022





Don't Be Handicapped

In Your Selection of The Proper Frame for The Warp Yarn to be used.

This selection has much to do with the quality of the fabric being woven and the output of the Loom.

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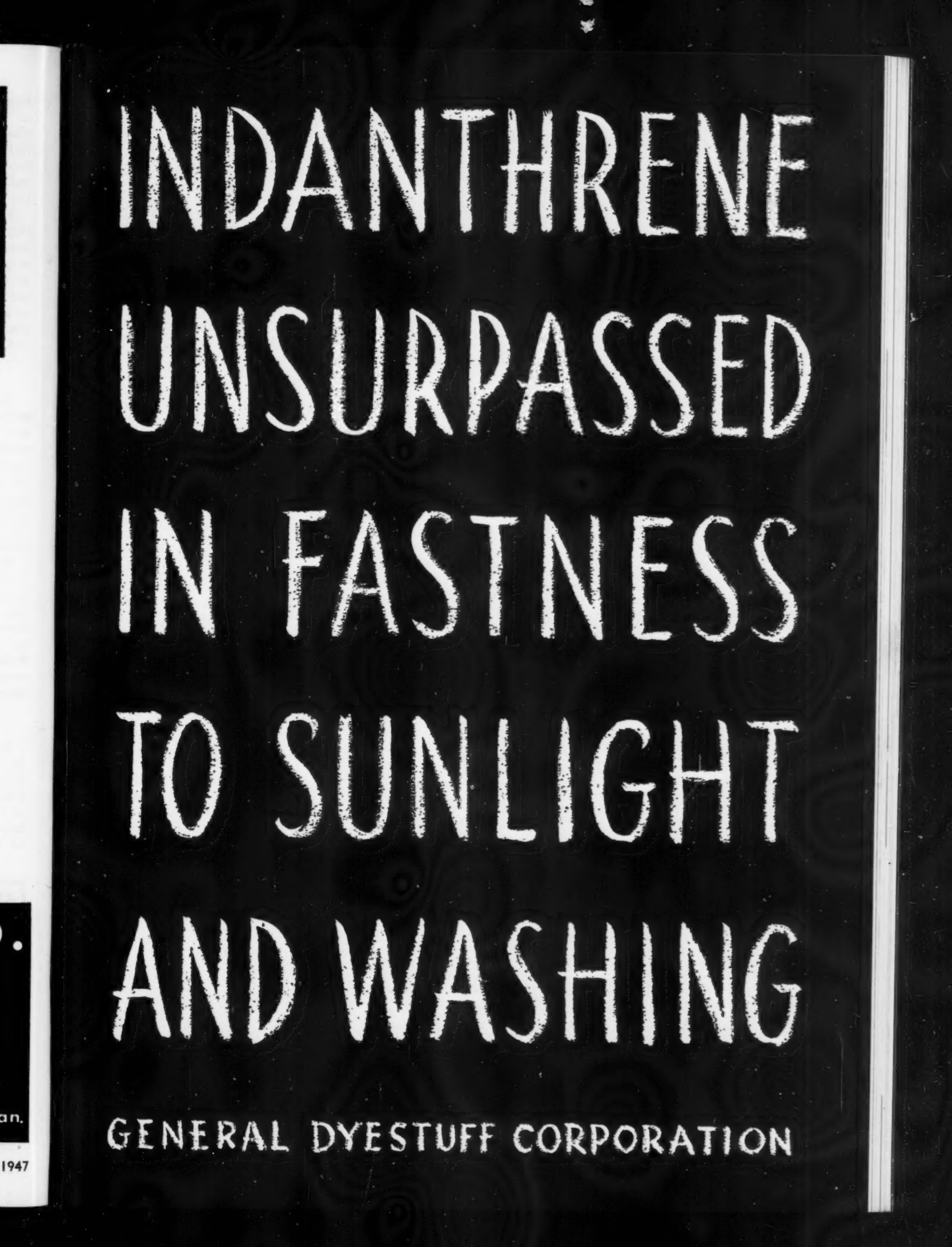
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TO SUNLIGHT
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GENERAL DYESTUFF CORPORATION

For easier doffing

FULL UNIFORM PACKAGE

SONOCO
STRAIGHT SIDE
WARP SPINNING BOBBIN

The spindle fits the "cushion grip" with a gentle squeeze to force top-drive contact which breaks sharp and easy, without drag or pull in doffing.

The SONOCO Straight Side Warp Spinning Bobbin fits the spindle with top drive contact at the point of the Steep Taper Cushion Grip. They are made in four standard lengths and outside diameters to meet various traverse lengths, ring diameters and angles of yarn pull.

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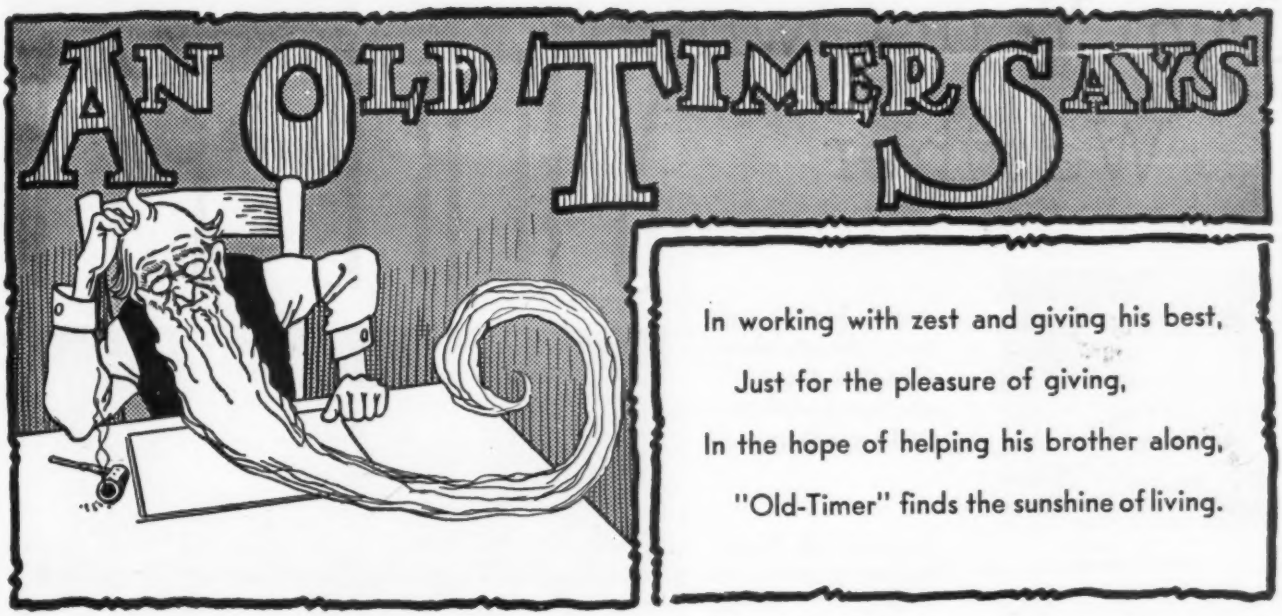

AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Make a Friend of an Enemy

HAVE YOU any enemies? Some question, you say. Who in the heck has no enemies? Then there are a few on every fellow's list who are not what we term bitter enemies, but you just know that they don't like you very well and, by gosh, you don't like them very well either. Well, gentlemen, OLD-TIMER claims that about the greatest achievement any man can perform is to *make a friend out of an enemy.*

Yes, we know you have your pride; you must not lose face, as the Japs say. But the fact remains that you are just not "big" enough—you are simply too narrow-minded. Whoops! That's almost like hitting below the belt, isn't it, to say such hard things about you?

Well, here is a true experience. Not the only one either, because OLD-TIMER found out early in his career that none of us has enough good friends, so he did everything he could to gain a friend.

In 1919 he was made superintendent of one of the largest plants in the South. The day he reported for work the mill president talked over with him many things about the new job. One item he mentioned was that OLD-TIMER would have to let the general overseer of carding look for another job.

The president explained that the superintendent who was leaving and this overseer of carding were buddies, that they went fishing together, and other places together. Therefore the overseer of carding would naturally resent OLD-TIMER'S taking his buddy's place and would not cooperate, but in the president's opinion would be an enemy who should be discharged at the first opportunity.

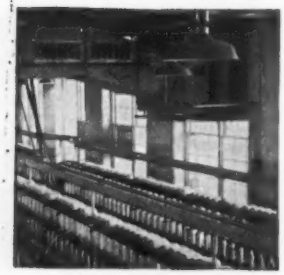
Surely enough this general overseer of carding was as stubborn as a mule. He would hardly talk to OLD-TIMER without showing resentment. He was an older man than OLD-TIMER and, of course, thought he knew more about carding than the young superintendent. Sixteen years later, when OLD-TIMER left that firm, this overseer of carding was still there and was superintendent of one of the plants under OLD-TIMER, who was vice-president and general manager.

OLD-TIMER believes he was as true a friend as he ever had.

Now, brother, will you make an honest, unselfish effort to make a friend of one of your enemies? You have no idea how much pleasure you will derive from such a good deed. Friends are very valuable assets, yes, very valuable!

Friends are valuable assets. A step out of the way to make a friend will give you untold pleasure.

Own Your Own Weather



Air enters through Airchanger unit

Regain higher and more dependable. Greater strength and more uniformity in numbers.

Or through central station air washer

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.

Propelled through ducts

Fewer Breaks. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.

Automatic Shutters let heat out

Better Product. And very often as much as 2% more production.

Certified CLIMATE with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

You get a

SURE FIT

That Kentex Aprons actually do *fit better* is borne out by their steadily increasing sales over the past nine years, and unsolicited praise from spinning room overseers.

But far stronger than this is the proof you will see for yourself, on your own frames, that KENTEX is the apron you can't afford to pass by for greater yarn uniformity and increased yarn production. Send us your size. We'll send you some free test KENTEX APRONS promptly.

Kentex Aprons made to any specifications, on short notice. Write for free samples and prices.

TEXTILE APRON COMPANY

EAST POINT, GEORGIA

J. B. KENNINGTON, OWNER

NEW EQUIPMENT AND MATERIALS

Swiss Portable Warp-Tying Machine

A portable, fully automatic, warp-tying machine, which is reported to tie any material from the finest silk or rayon to the coarsest woolen yarn over the width of the warp in one uninterrupted operation at a speed of 200 to 300 knots per minute, is being introduced in this country by Zellweger Ltd., Uster, Zurich, Switzerland.

Other Zellweger products for the textile industry include: an automatic reaching-in machine which enables one operator to pass the warp threads through the droppers and harness; a denting machine which draws the threads into the reed automatically as soon as the threads are placed in the denting blade; and a dropper-pinning machine.

It is claimed that the "Little Uster" warp-tying machine, which sells for approximately $7,000.00, will pay for itself in as little as six months and in no more than two years by reducing labor costs and increasing production.

In addition to employing a highly efficient principle to select and tie the threads of the new to the finished warp, the machine is said to possess several features of unusual interest and significance to the textile industry:

1. The tying unit consists generally of one tying-head, weighing about 50 pounds, and one or several tying frames. The tying-head is an independent mechanism, easily transportable from loom to loom. Normally, two or three frames are supplied with each tying-head. This facilitates preparation of a new warp on a second or third loom while the tying-head is engaged on the first loom. For carrying the tying-head and for storing when not in use, a handy truck is furnished containing necessary accessories and tools.

2. The machine operates without interruption across the entire width of the warp.

3. It is equally adaptable to fine or coarse threads without adjustment of the operating mechanism, and without changing any of its parts.

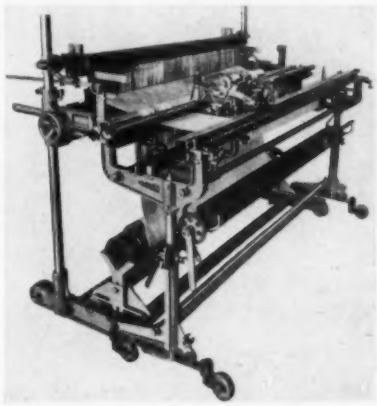
4. Completely automatic, the machine operates on either a-c or d-c current. Manual operation also is provided.

5. The machine is readily adaptable to any make of loom.

The machine is available in three models:

Type 1 ties plain warps without lease, the threads of both warps being selected from the clip by replaceable needles.

Type 2 ties plain and multi-colored warps with a lease, the threads being selected from the warp in correct sequence by lease tubes and a pair of hair brushes.



The "Little Uster" warp-tying machine, complete with the frame and the tying head.

Type 3 ties both warps with and without a lease. It is a combination of Types 1 and 2. The most versatile, it also has the added advantage of being able to tie a leased sheet to an unleased sheet, according to the manufacturer.

All three types are equally portable and may be used for tying behind the loom, or as a stationary unit, when equipped with appropriate back frames.

The Type 2 warp-tying machine, which operates on an end-and-end lease, is understood to have the widest application in American textile mills.

Operation of the machine is described as follows:

1. Four lease tubes select the threads from the warps, two operating on the completed warp, and two on the new warp.

2. Hair brushes, operating in tandem on both warps, pull the threads back to the thread catchers.

3. When the thread catcher has drawn the threads into alignment with a cutter and the knotter, a plunger-type clamp holds the threads of the two warps firmly in place.

4. If the selecting device misses a thread or if a thread breaks, the machine stops immediately and automatically.

5. The action of the cutter and the knotter is simultaneous. While the thread is being cut a firm knot is being tied. In tying the knot, the knotter describes a rotary and forward action around the specially formed head of the needle sleeve.

6. The tying-head is mounted on four wheels, and is propelled across the frame by a worm gear.

Service branches with an adequate supply of spare parts have already been established in the South and New England, according to the announcement.

Nopco Products

The Nopco Chemical Company, Harrison, New Jersey, is now in production on its Nopalcol products, a series of non-ionic emulsifying agents. These surface active agents are long chain ethylene oxide polymers of fatty acids.

It is claimed that the materials are not affected by hard water, salts, or dilute acids which usually cause instability when soaps, sulfated oils, or sulfated fatty alcohols are used. The outstanding feature of these compounds is said to be the flexibility of their chemical and physical properties due to alteration of the length of either the fatty portion or the ethylene oxide polymer.

A series of cationic surface active chemicals has also been announced by this concern. Known under the trade name Nopcogen, these products possess unusual physical and chemical properties, attributed to the combination of fatty nuclei and nitrogenous chemicals, according to the announcement.

The higher molecular weight members of the series show an increasing degree of basicity and have an improved and more complete dispersibility in acid mediums. Some members of the series exhibit complete solubility in waxes, petroleum and vegetable oils, and numerous organic solvents, it is reported.

An outstanding property claimed for these surface active agents is one in which the oil phase of an emulsion is made substantive to cellulose. This property simplifies

processing of yarns and fibers and improves the appearance and durability of fabrics.

These products have also proved useful as wetting, dispersing and softening agents.

"Flameproofing of Textile Fabrics"

To stimulate further research in the field of flameproofing textiles and to advance the knowledge of other investigators working along the same lines, a book entitled "Flameproofing Textile Fabrics" has been prepared by a staff of specialists under the editorship of Roy W. Little, now director of research for Ellicottville Laboratories of Lawrenceville, N. J., and published by Reinhold Publishing Corporation, 330 W. 42nd St., New York, N. Y. ($6.75).

Early in World War II it became apparent that fire-resistant finishes should be available for general use on clothing fabrics. In view of the fundamental nature of the research which it was evident would be required to attain a satisfactory solution of this problem, the Office of the Quartermaster General requested the National Academy of Sciences to initiate a research program. Accordingly, in October, 1943, the National Research Council of the Academy contracted with Columbia University for establishment of a research project in the Department of Chemical Engineering on the subject "The Flameproofing of Army Clothing." The results of these researches, conducted over a period of a little less than three years, are made available to the public in this volume.

The subject matter of this book is presented as a comprehensive survey of the subject of flameproofing textile fabrics rather than in the form of a technical report of the investigations carried out. As a result, the material is divided into three general sections which consider in turn the fundamental mechanisms of the thermal degradation of cellulose; the methods employed in the processing and evaluation of flameproofed fabrics; and the various applications which exist for flame-retarding treatments in the field of textile fabrics.

Tenter Chain

High speed tentering without excessive wear on the tenter chain and without extreme vibration is a feature claimed for the "43" Tenter Chain recently announced by H. W. Butterworth & Sons Co., Philadelphia 25, Pa.

The chain is made of hardened steel with precision ground surfaces. It is a 2-inch pitch chain, practically eliminating the natural vibration of the chain entering and leaving the driving and idler sprockets.

This fact has many basic advantages on any size sprocket, according to the manufacturer. Impact loads and strains are minimized. The chain runs much more smoothly and quietly even at high operating speeds. The wear on the cloth holding or control parts of the clamp bodies is greatly reduced.

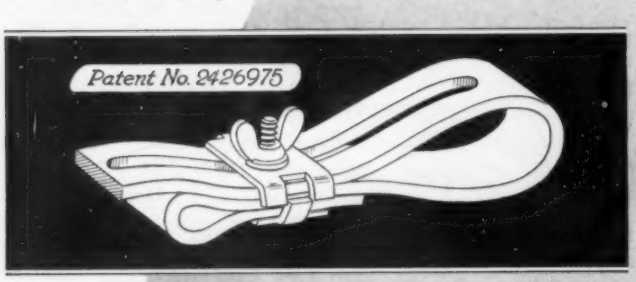
It is reported that dirt or hard iron particles cannot be picked up by the hardened surfaces of the chain. As a result, the guides or tenter rails in which the chain operates give long service without wear.

The "43" chain can be installed in almost any standard tenter, with changes in chain wheels, idlers and openers. Conversion parts of earlier make Butterworth tenters are carried in stock.

With the new chain the operator can change a damaged clamp with

NEW

JACK STRAP and CLAMP COMBINATION



Gives Faster, More Efficient Loom Production at Lower Cost

Production efficiency hits a new high with this new, accurate jack strap. The patented combination permits absolute accuracy in adjustments down to 1/64"—and then protects that adjustment against vibration with an iron grip.

Put this efficiency expert to work for you today. You will save time, money, labor. Thoroughly tested & approved by leading mills. Write, wire or phone for further details.

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W. D. DODENHOFF CO., Inc.

GREENVILLE, S. C. MAIN OFFICE

MAYWOOD, N. J. EASTERN DIVISION

A HONEY OF A *Shuttle* for the new S6 LOOM

Southern

Micromatic Finish Pads

for positive first pick and running tension.

The Most Perfect Steel Thread Cutter Plate on the market—

Mirror finish surface—Tool and Die Hardness insures positive cut off.

Patented No. 300 Series Eyes

Requires no change for S & Z winds. Interchangeable styles for fine and coarse weaving. Most compact, permitting maximum amount of bobbin and clearance. Super-sanded — no burrs, no sharp edges.

Positive Locking Device

for adjusting screws. Assures constant uniform tension of filling.

Spring Assembly

A precision job of alloy steel, heat treated — assures accurate bobbin alignment. A No. 1 requirement for hi-speeds and fine yarns.

The bottom of Shuttle

made of Ste-Hide (Phenolic Impregnated Cloth). Increased strength under the spring — increased smoothness for tender yarns — with wear and tear. Eliminates "blisters" and delamination.

Shuttle Tips

Another innovation of Southern Engineers, which makes the tip and the dogwood to which it becomes a part, one definite unit — no loosening — no coming out.

This Shuttle can be designed and made with the Celebrated L.F.P. Principle for increased bobbin capacity.

Immediate delivery on sample orders. Let us give you full details

Southern Shuttles Division

(Where close tolerance workmanship is an art)

of

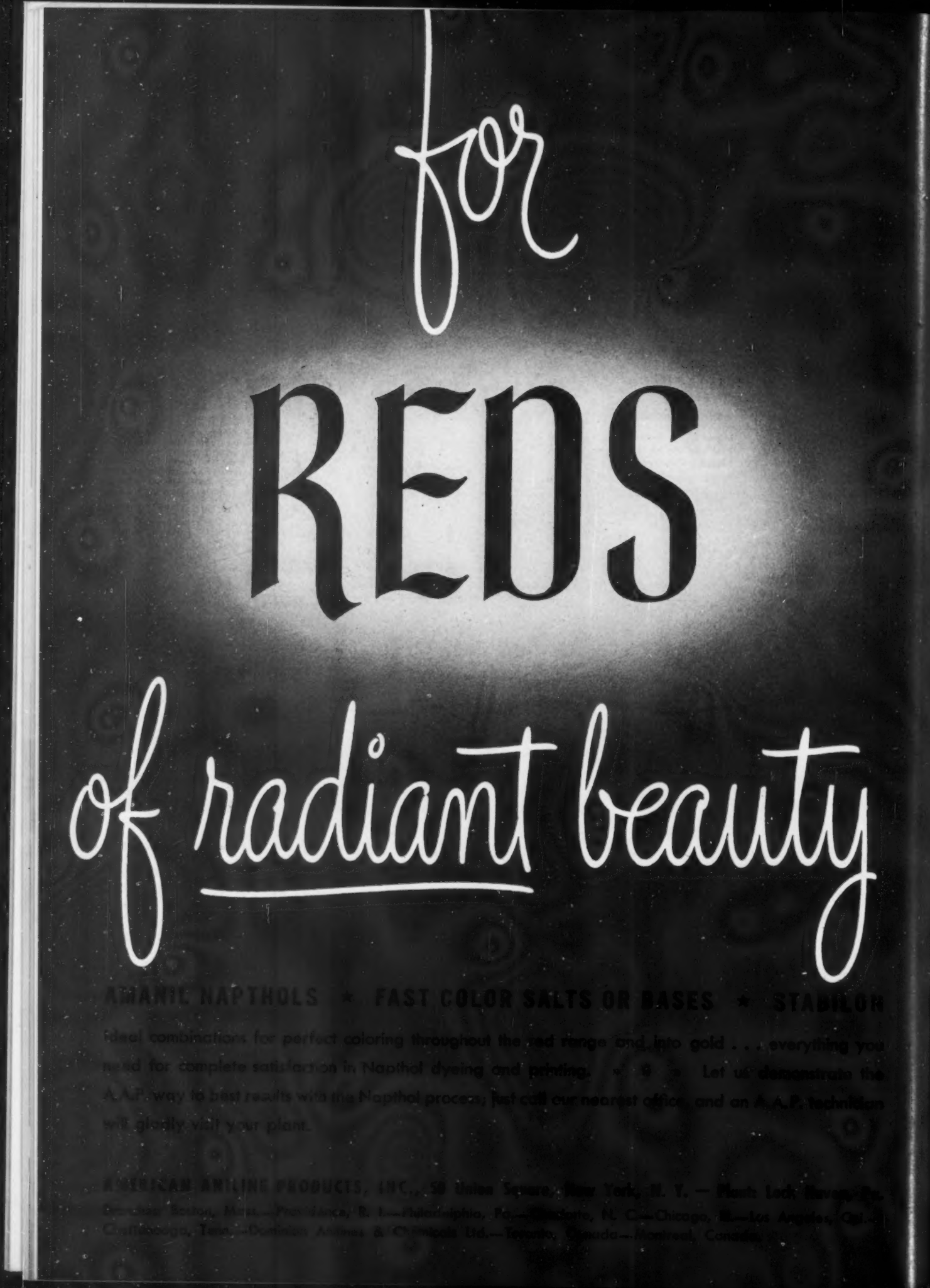
STEEL HEDDLE MFG. CO.

621 E. McBee Ave., Greenville, S. C.

Latest Data on Shuttles

No. 2

Read & Retain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REDS
of radiant beauty
AMANIL NAPTHOLS ★ FAST COLOR SALTS OR BASES ★ STABILOR
Ideal combinations for perfect coloring throughout the red range and into gold . . . everything you need for complete satisfaction in Napthol dyeing and printing. ★ ★ Let us demonstrate the A.A.P. way to best results with the Napthol process; just call our nearest office, and an A.A.P. technician will gladly visit your plant.
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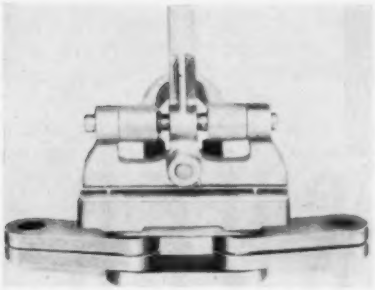
Chattanooga, Tenn.—Dominion Anilines & Chemicals Ltd.—Toronto, Ontario—Montreal, Canada



The "43" tenter chain.

only a few seconds shut down of the tenter. When clamp bodies require replacement for any reason, the removal of a single bolt separates each clamp body from the chain. Thus repairs can be made or clamp bodies replaced without removing any part of the chain.

The stainless steel plate is attached to the clamp body by modern high frequency brazing equipment. When the plate becomes worn or grooved in service, it can be replaced easily. No rivets are used to hold the plate in position.

The precision-machined bronze nipper is equipped with a heavy gauge stainless steel insert for finishing operations. The accurate machining and sharpening of this insert insures the accurate fitting of replacements when they are needed. The cross pins are centerless ground to closely held tolerances.

The "43" clamp body holds its dimensional shape and accuracy when subjected to high temperatures. It is made from heat treated processed iron, precision finished by modern machinery. The "43" clamp body is fitted with a roller wheel control, ¾-inch diameter, which gives an average selvage grip of ¼-inch. A special compound control used largely for light rayons and silks, or shoe controls of various types for a wide range of conditions or depth of selvage grip, can also be provided.

Crimped Rayon Staple

A crimped rayon staple which is said to provide improved texture and appearance for certain types of fabrics has been developed by the American Viscose Corporation.

The new product can be used by itself, or it can be blended with wool, cotton or other types of rayon fibers, according to the announcement. The staple will be used most effectively where a warm bulk-without-weight fabric is needed, as in the case of blankets.

It was also stated that the crimp staple will give a "livelier hand" to higher twist fabrics such as gabardines. Tests have proved the staple also provides greater durability and added strength to the fabric. In blends with wool the crimped staple lends a new luster and color interest to the finished fabric.

The process involves a special spinning of the staple in such a way that a permanent crimp is provided. According to the manufacturer, the crimp is made inherent in the structure of the fiber and washing will only temporarily affect it. Upon drying in a relaxed state, the fiber returns to its full, natural crimp.

At left is shown uncrimped viscose rayon staple. On the right is the new crimped viscose rayon staple.

The staple is available either dull or bright and in a variety of deniers and staple lengths. It is understood that no special problems are encountered in drawing, spinning, weaving or finishing.

Wax for Screen Printing Table

A wax which has the property of holding fabrics without adhering to them has been developed for use in the screen printing of textiles. The wax, produced by Glyco Products Company, Inc., of Brooklyn, N. Y. and Natrium, W. Va., is applied to the screen printing tables to keep the fabric from slipping during processing.

The manufacturer claims that use

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USED THROUGHOUT THE TEXTILE INDUSTRY FOR:
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Portable Battery and Electric Models Available with 5, 7, 20, or 40 Power Lenses.
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PROCTOR EQUIPMENT FOR THE

TEXTILE FINISHER

SINGLE RUN TENTER SYSTEM
for high speed drying of wide variety of fabrics and finishes

SUCTION CYLINDER DRYER
a versatile dryer employing a new and different type of circulation

ROLLER DRYER & CURER
a moderate capacity machine; can be designed for drying or curing

LOOP DRYER & CURER
a high capacity machine; can be equipped for drying or curing

DAGLISH *Overfeed* TENTER
for obtaining desired "hand" through principle of overfeeding and tenter drying

MULTIPASS *Airlay* DRYER
for achieving the ultimate in finished appearance of goods dried without tension

"SLACK" DRYER
for use in shrinking range on goods to be shrunk in both warp and filling direction

The growing trend to supplying finishing plant equipment *in range* makes it doubly wise to give early consideration to your needs as you anticipate expansion or modernization . . . and to select with extra care the *one* supplier whose intimate knowledge of equipment and processes will enable him to make intelligent recommendations. Proctor & Schwartz' long association with the textile industry—coupled with Proctor research men constantly working with textile technologists as new developments unfold—plus the fact that no Proctor equipment is ever recommended until its performance can be guaranteed in writing in the sales contract—indicates that your best bet is to consult Proctor & Schwartz as soon as the need for new equipment becomes apparent.

Write for this New Proctor Booklet

While intelligent recommendations on the type of equipment most suitable for your particular requirements can be made only on the basis of complete knowledge of your problem—there are certain basic types of equipment engineered and built for the textile finishing plant. A profusely illustrated, 16-page booklet which tells the story of Proctor Equipment for the Textile Finisher has just come off the press. You'll find it very informative and well worth having. Write for your copy today—while the supply lasts.

PROCTOR & SCHWARTZ, INC., PHILADELPHIA 20, PA.

of the wax, called Flexo Wax C Light, avoids the danger of smudging the pattern by accidental movements of the cloth and eliminates the need for pinning the material to the table. It considerably reduces the time required in screen printing by eliminating completely the pinning and unpinning of the fabric and also avoids the occasional losses from holes and tears.

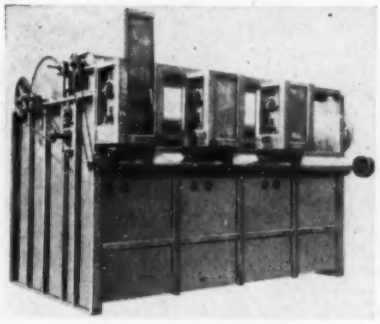
The wax may be easily applied to screen printing tables, either by hot melt or, after being mixed with a hydrocarbon solvent, in paste form. After the wax has solidified through cooling or the evaporation of the solvent, the fabric is placed on it. Slight pressure will cause the cloth to adhere to it tightly enough to prevent slipping. Wax particles will not pull off or stick to the fabric when the material is peeled from the table.

For most fabrics, the natural adhesive qualities of the wax are sufficient but where, in special cases, greater adhesive properties are necessary, the required degree can be obtained by the blending of a small percentage of petrolatum with Flexo Wax C Light.

Cook - P & N Developments

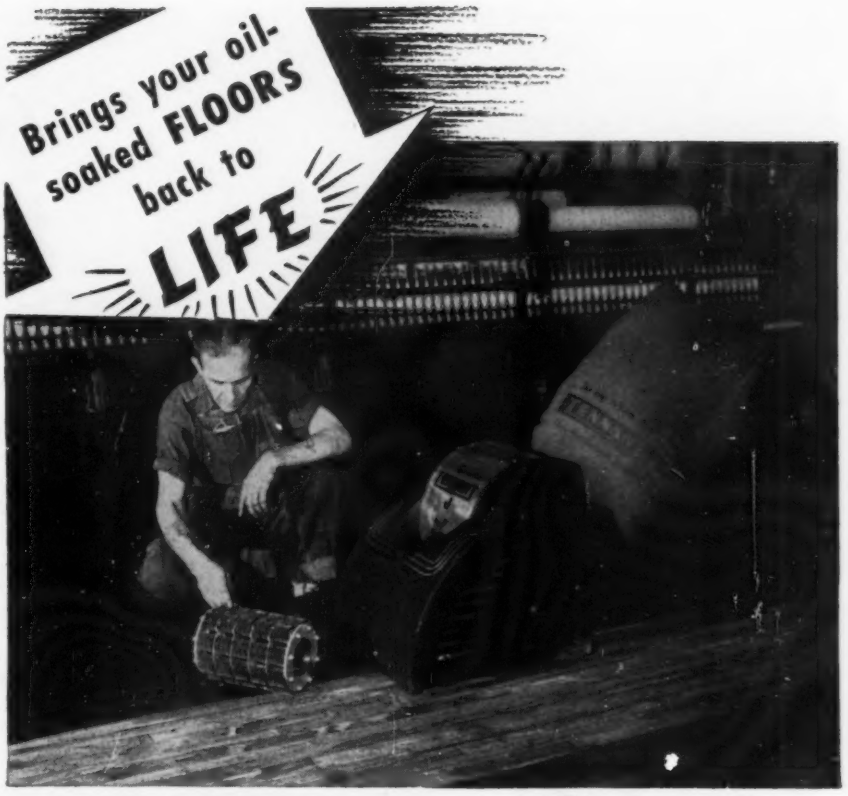
A new stainless steel slack washer has been developed by Cook-P & N Machine Co., 365 Dorchester Ave., Boston 27, Mass. This machine is a self-supported unit with partitioned tank. The number of partitioned sections depends on the width of the machine and the requirements of the customer.

The long squeeze rolls are rubber covered. The oval reel and carrier



Slack washer.

reel are all of stainless steel. Three sets of short squeeze rolls are rubber covered and adjustable, being wholly enclosed in stainless steel housings with sliding doors. Pressure of each



TENNANT System
DRY CLEANING

FOR MILL FLOOR MAINTENANCE

Reconditioning dark, slippery, oil-soaked floors with the Tennant System *increased light reflection* 533% in the mill shown above.

You, too, can bring your old, slippery, oil-soaked floors back to life again—and *keep* them "like new" for years—with the Tennant System of Mill Floor Maintenance.

Clean, dry, hard floors—maintained by *dry cleaning*—increase your mill's efficiency. They improve working conditions, boost employee morale and promote safety.

THE TENNANT SYSTEM DOES THIS:

RECONDITIONS worn, oily surfaces. Removes soft, dingy topwood fibers and leaves a sound, vigorous floor surface.

HARDENS and seals to resist wear. Quick-drying Tennant seal is rapidly burnished into the floor to fill, bind and HARDEN into a glossy, non-slippery, wear-resistant surface.

DRY CLEANS—eliminates scrubbing. Cleans, smooths and brightens your floor many times faster than scrubbing. Daily cleaning is easy with treated cloth mop.

WRITE today for Bulletin on Mill Floor Maintenance.

G. H. TENNANT CO.
2581 North Second Street • Minneapolis 11, Minn.

Oil Cover Paint

Paints over oil and dries in ½ hour! Tennant 201 Oil Cover Paint brightens hard-to-get-at floors under looms, spinning frames, etc. Provides attractive, easy-to-clean finish. Available in many colors.

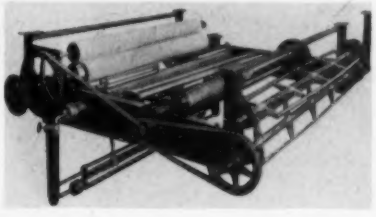
Procter & Gamble
A Merry Christmas
A Happy New Year

set of short squeeze rolls is individually adjustable, while speed is variable with respect to the long squeeze rolls.

Rolls may be equipped with manual pressure set or pneumatic pressure set as desired.

This machine is furnished complete with front baffle, steam pipes, and guards, all of stainless steel. It is made in widths to meet any requirements—with or without individual drive. Versatility is obtained by addition or substitution of parts—for example, guide rolls my replace squeeze rolls, squeeze rolls may replace oval reel, etc.

A scutcher designed to meet the requirements of all types of fabrics has also been developed. Fabricated construction eliminates all heavy



Scutcher for all types of fabrics. Fabricated construction is one of its many features.

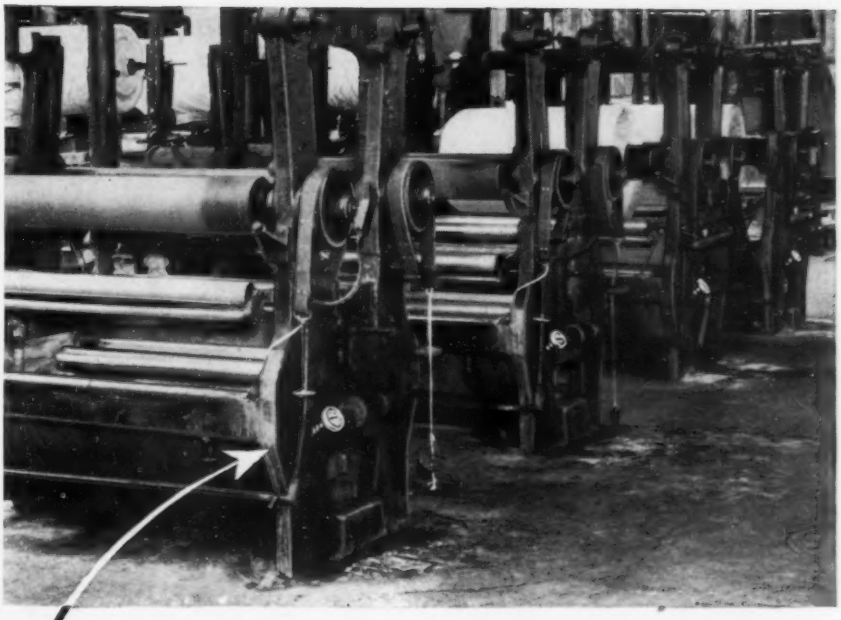
castings, thus permitting the use of stainless steel throughout the machine (including frames). If all stainless steel is not desired, machines may be had with brass rolls and governor, mild steel frames and shafts.

Distortion is eliminated by increased diameter shafts rotating in ball bearings throughout, resulting in long and uniform operating life, according to the manufacturer.

Beater and scroll roll gearing is metallic-to-nonmetallic to give smooth operation. The governor is available in either brass or stainless steel with ball bearings throughout. An air guider may be substituted for the governor if so desired. All parts can be removed without exposing ball bearings or removing them from shafts.

Drive may be by V-belts or roller chain with individual motor if desired.

The machine is available with or without folder, rubber covered draw rolls, and vacuum extractor in the following widths: 50, 55, 60, 66, 72, 78, 84, and 90" roll face. Special machines can be constructed to order in any width.



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ON DYE TANKS!

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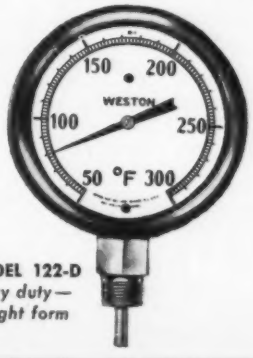
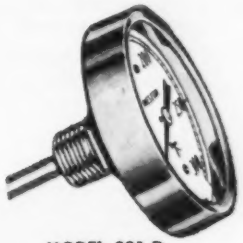
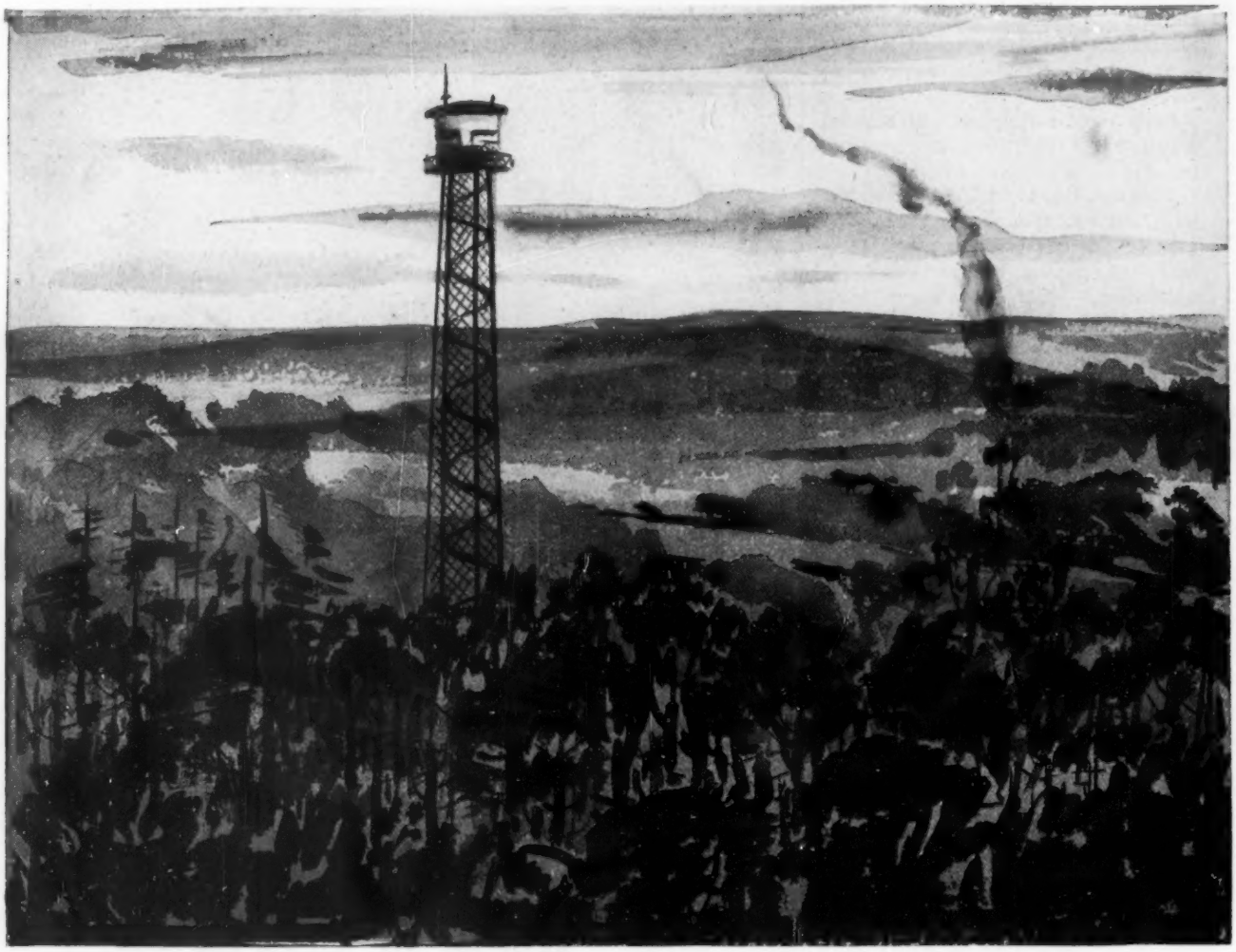
Combine all the advantages which insure overall efficiency . . . *quick, easy installation—readable, dial type scales—rugged all-metal construction—long-time accuracy—lower replacement and maintenance costs.* Ideal for tanks, vats and all other textile equipment. Available in required sizes, ranges and stem lengths. See your jobber or local WESTON representative . . . WESTON Electrical Instrument Corporation, 689 Frelinghuysen Avenue, Newark 5, New Jersey.



MODEL 122-D
heavy duty—straight form



MODEL 221-D
3" head dia.



When there's trouble in the wind

That wisp of smoke could mean serious trouble.

But the man in the fire tower knows the way to avoid real trouble is to take prompt action when he gets the warning signal.

In your de-sizing operations you probably receive plenty of those signals that give warning of trouble ahead. Perhaps a variation in the sizing formula used, or variables in water, indicate an unusual problem to be met.

Bleachers and dyers count on Diastafor brand de-sizing agent—Type L when problems like these arise. They know they can depend on Diastafor to work well under widely varying conditions. Diastafor will give good results in a wide range of temperatures—and in a wide pH range as well.

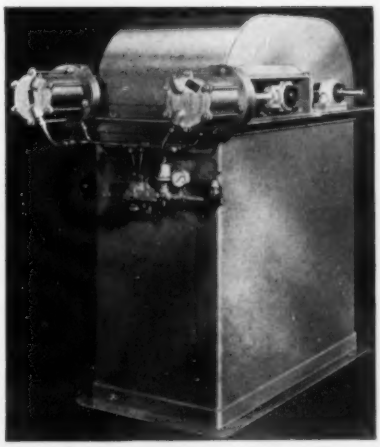
When you want uniformly good results—a fine flawless finish . . . no streaks or blemishes—(and that's *all the time!*)—you can get them with Diastafor—Type L. It will give the same superb performance whether you are working with cottons, rayons, or mixed goods.

Whenever Diastafor is used it proves its value over and over again. For 39 years it has been the leader in its field, prized for its economy, ease of operation and fine performance. It's the all-purpose de-sizing agent that keeps trouble at a minimum.

When you have a de-sizing problem that signals "Trouble," please write us. We shall be glad to give you the assistance of our sales and technical staffs. Address Standard Brands Incorporated, *Diastafor Department,* 595 Madison Avenue, New York 22, New York.

DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED



Rope-Type Squeezer

A new rope-type squeezer has been announced by The Wiesner-Rapp Company of Buffalo, N. Y.

One of the many features claimed for this functionally-designed squeezer is the adjustable pneumatic pressure on the rubber rolls which is preset to meet the varying pressure requirements. A conveniently located dial tells at a glance the pressure on the rolls. The roller bearing take-up units on the rubber squeezer roll nearest the pneumatic cylinders are mounted on rails to permit the entire roller assembly to ride back and forth according to the thickness of the cloth and at the same time exerting constant pressure. This particular feature, which provides "give," increases the life of the rolls due to shock being taken by the pneumatic cylinders instead of the rubber, according to the manufacturer.

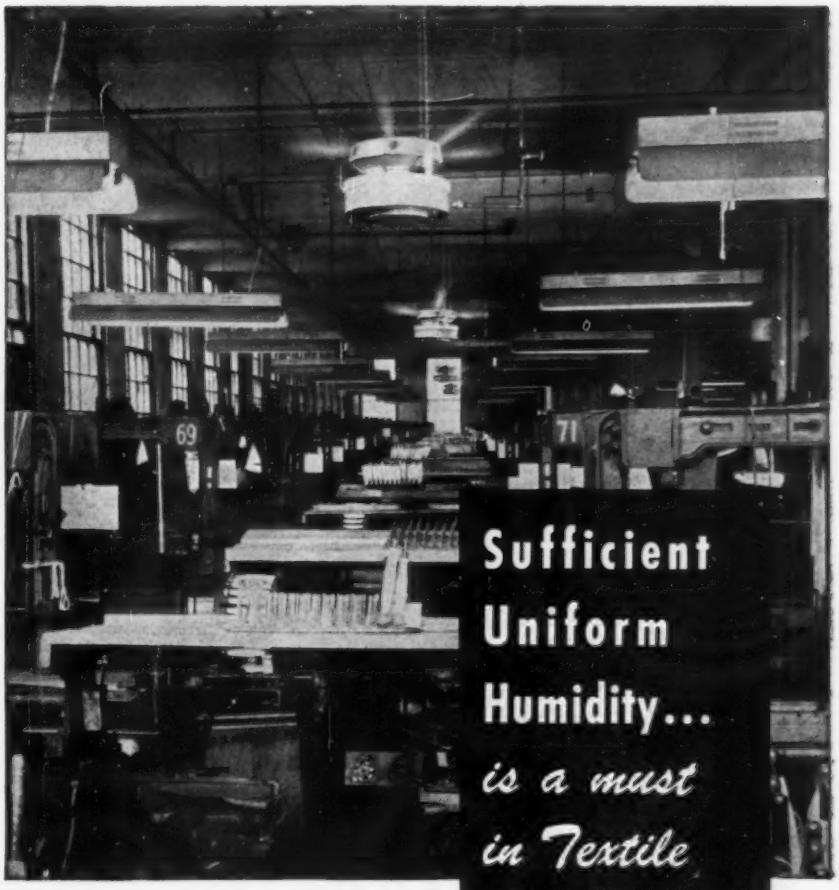
The two squeeze rollers are located side by side. By placing the rolls side by side, the extracted liquid is squirted straight down into the tank. Both squeezer rolls are standard and interchangeable for quick, easy replacement.

The entire squeezer is of all-welded, stainless steel construction except for the pneumatic mechanism. This squeezer requires 53½" x 29½" floor space and is 64" high.

New Sheave Provides Fine Adjustment

A solid steel fractional horsepower variable pitch sheave providing fine adjustment through use of 20 threads has been announced by Dodge Manufacturing Corporation of Mishawaka, Indiana.

All sizes of sheaves manufactured will be available in three standard bores—namely, ½", ⅝" and ¾". The ½" bore sheave is provided with set screw only but the ⅝" and ¾"



Walton

HUMIDIFIERS RAISE QUALITY
REDUCE SECONDS... INCREASE LOOM EFFICIENCY AND MILL OUTPUT!...

This typical weaving room obtains the required uniform humidity from a dependable Walton System . . . one of many installations throughout the textile industry, where they have been found to be a "must"!

Walton equipment introduces humidity to air at rated capacity, as soon as the units are started . . . and operate uniformly thereafter! This uniform humidity raises the quality of the product, boosts loom efficiency and mill output. There are so many advantages to Walton we invite you to write us today for full details on Walton Equipment and how it is serving the textile industry.

WALTON LABORATORIES, INC.
IRVINGTON 11, NEW JERSEY

WALTON LABORATORIES, Inc. Irvington 11, N.J.
Please mail me copy of "HUMIDITY"

NAME_____

COMPANY_____

ADDRESS_____

on how Aluminum Extrusions can save you money...serve you better

THE above illustration is produced both as a reminder and proof of the wide application for aluminum extrusions in modern textile machinery design. And the shapes pictured are but a small fraction of the parts actually extruded by Reynolds for your industry. They are furnished in any desired length, from a few inches to 30 feet or longer.

Reynolds heat-treated aluminum is available in a wide range of alloys to meet the strength requirements of most every service. Its weight is but ⅓ that of steel and cast iron, thereby cutting dead weight, reducing inertia forces. There is no cracking, splintering, or distortion.

Aluminum can't rust. In normal textile mill atmospheres its bright natural finish requires no paint protection or maintenance. Costly yarn stains from moisture condensation are eliminated.

Now add to aluminum's basic advantages the economies of fabrication by the extrusion process. Special sections can be designed efficiently to meet your particular requirements: to facilitate joining; to add a rib or lug or bulb where desired; to reinforce cross sections that are heavily stressed, and to take unnecessary metal out elsewhere.

Tool costs are very low. Machining operations are held to a minimum. No matter how simple or complicated the shape, you're assured important man and machine hour savings.

Where can aluminum extrusions serve you best at a saving? A Reynolds textile engineer will be glad to assist you in finding such practical and profitable applications. For complete information, write our nearest field service office, or Industrial Machinery Division, Reynolds Metals Company, 310 Hanna Building, Cleveland 15, Ohio.

REYNOLDS METALS COMPANY, ALUMINUM DIVISION, LOUISVILLE, KY.

REYNOLDS METALS

REYNOLDS
The Great New Source of **ALUMINUM**

INGOT • SHEET • SHAPES • WIRE • ROD • BAR • TUBING • PARTS • FORGINGS • FOIL • POWDER

bore sheaves have both keyway and set screw.

According to the manufacturer, the solid steel construction insures minimum run out. A positive locking device provides firm fastening to shaft.

New Shuttle for S-6 Loom

The engineers of Southern Shuttles Division of Steel Heddle Mfg. Co., Greenville, S. C., have created a new shuttle specifically for the S-6 loom.

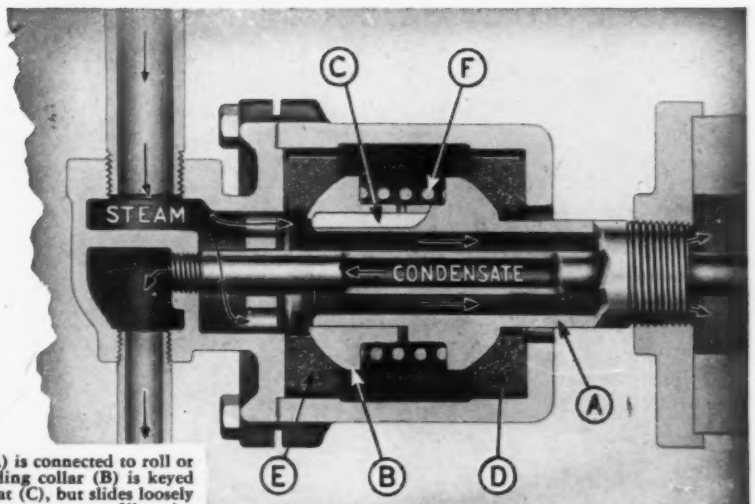
It is claimed to be equipped with the latest creation in a steel thread cutter plate. This plate has a mirror finish surface and a tool and die hardness, insuring positive cut off at every change.

This shuttle is equipped with the patented No. 300 series eyes, which require no change for the S & Z winds. Interchangeable styles for fine and course filling are available. The eye is compact, permitting the maximum amount of bobbin end clearance.

New shuttle for S-6 looms. Note magnified view showing how bottom of shuttle is fitted with a phenolic impregnated cloth.

The shuttle has micromatic finish pads for positive first pick and running tension. The spring assembly is of alloy steel, heat treated—thereby assuring accurate bobbin alignment. The tip and the dogwood to which it becomes a part are one definite unit. It is a positive locking device. Four adjusting screws assure constant, uniform tension of filling.

The bottom of the shuttle is made of a phenolic impregnated cloth. It can be designed and made with the "LFP" principle for increased bobbin capacity.



Nipple (A) is connected to roll or drum. Sliding collar (B) is keyed to nipple at (C), but slides loosely over it so pressure can fill entire housing. This pressure becomes the sealing force, by pressing seal ring (D) tightly against nipple. Both seal ring and bearing ring (E) are of special carbon-graphite, which eliminates oiling and packing. Spring (F) is for initial seating only. Type B Joint illustrated; other types, sizes for all needs.

...it's the biggest little trouble-saver in the mill...

In terms of physical size alone, the Johnson Joint could hardly be called big machinery. But in its ability to save time and trouble, and promote plant efficiency, its stature approaches anything the industry has ever seen.

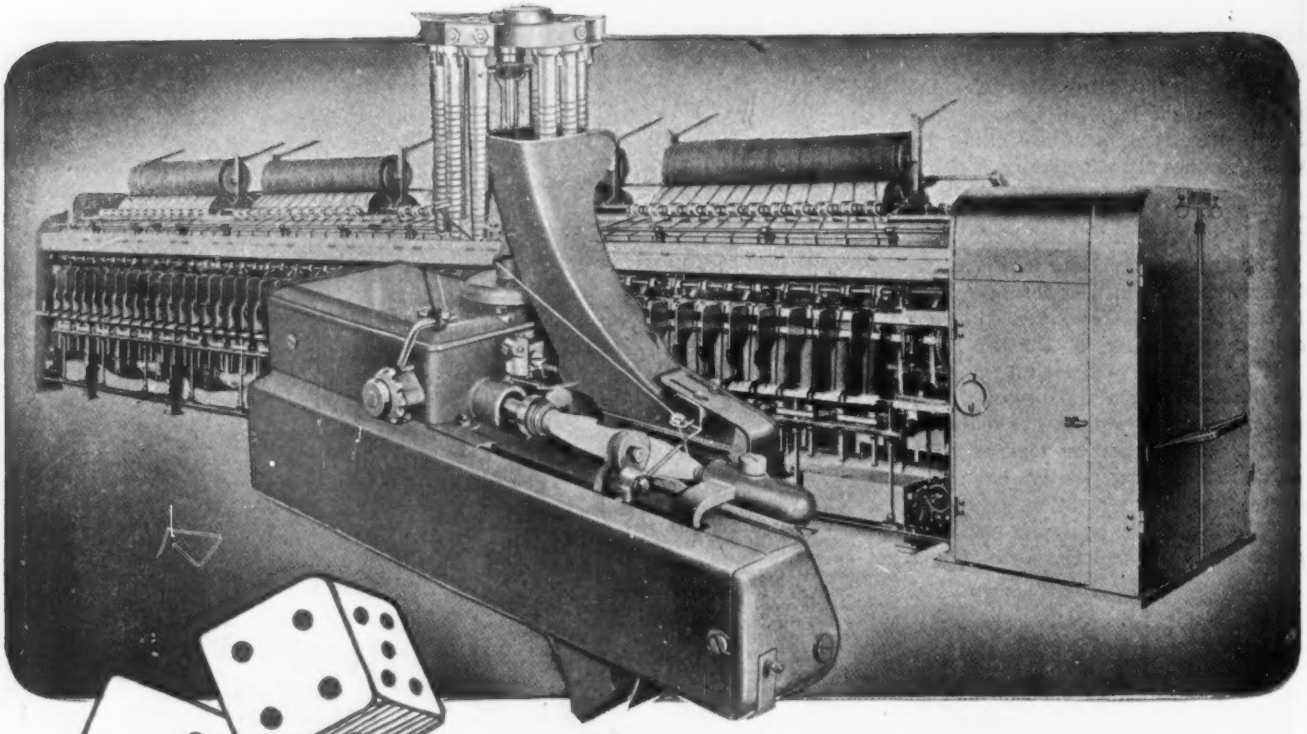
The Johnson Joint was designed to go after the old stuffing box and steam fit troubles in a business-like way, and it literally knocks the stuffing out of them. There's no packing of any kind. There's no oiling required, ever. There's no adjusting — the higher the pressure, the tighter the seal. There's little to fear from misalignment—with provision for both lateral and angular movement built right in. Note besides how neatly it provides for more efficient syphon drainage, through the same head that admits the steam.

In dollars and cents, what does all this add up to? Well . . . enough at least to pay the cost of switching over to Johnson Joints in just a short while. Enough certainly to make the Johnson Joint too big to overlook.

Write for literature and the name of your nearby Johnson representative.

JOHNSON
Rotary Pressure
JOINTS

THE JOHNSON CORPORATION
815 WOOD STREET
THREE RIVERS, MICHIGAN



HERE'S A NATURAL COMBINATION

. . . *that isn't a gamble!*

Whitin large-package Wool Spinning Frames and Whitin-Schweiter Automatic Filling Bobbin Winders make a combination that you can bet on with certainty. There's no question of gambling on these two machines. They were designed and built to work together and they do just that.

With the Whitin Wool Spinning Frame you are assured of:

1. **Higher production — lower costs**
2. **Stronger, more even yarn**
3. **Large packages — more yarn — fewer knots**
4. **Up to 50% saving in floor space**

Add these special advantages of the Whitin-Schweiter Automatic Filling Bobbin Winder:

1. **Faster operation — speeds up to 5000 R.P.M.**
2. **Winds all types and lengths of filling bobbins up to 10⅛"**
3. **Independent spindle control means higher efficiency**
4. **Versatility — Rewinds not only wool, but many other fibres**

Mills using these two machines will soon discover — as have many others — that this is truly a natural combination that's sure to pay off in increased efficiency and large profits.

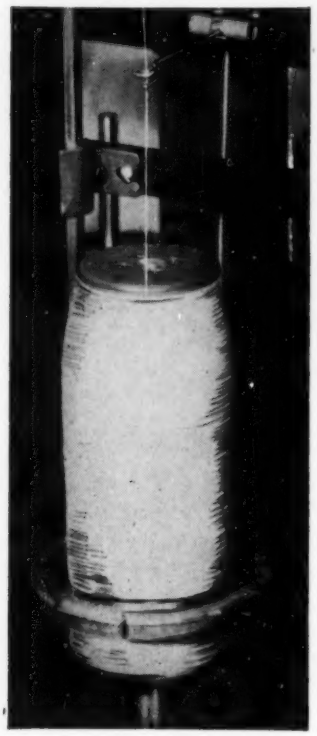
Write today for descriptive literature on both Whitin Model "E" Wool Spinning frames . . . and Whitin Automatic Filling Bobbin Winders.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

LEVELING OFF TO A FAST FINISH . . .
WITH Calcofast* WOOL DYES!
CALCOFAST wool dyes produce consistently level, uniform shades with excellent fastness properties. Their qualities of good penetration and superior fastness to light, washing, sea water, perspiration, carbonizing, and fulling, make them particularly desirable in fashionable shades for sportswear fabrics, suitings, neckwear, knitting yarns for sweaters or bathing suits, and hosiery yarns.
Ask your Calco representative for full details on this group of metallized dyes for carbonized wool. Our Technical Service Staff will gladly assist you with the application of Calcofast wool dyes. CALCO CHEMICAL DIVISION, AMERICAN CYANAMID COMPANY, Bound Brook, New Jersey. New York, Chicago, Philadelphia, Boston, Charlotte, Providence.
*Trade-mark
Calco

Twisting



IS A FUSSY PROBLEM SOLVE IT WITH

White NON-FLUID OIL

TRADE MARK REGISTERED

Most leading yarn and thread mills find that the use of NON-FLUID OIL insures greater production of perfect twist from frames. By reducing traveler friction, NON-FLUID OIL stops overstrain on yarn, cuts down the number of broken ends, and minimizes blackened yarn. This ensures more continuous operation and increased output of cleaner, more even yarn . . . at a lower production cost.

We invite you to consult with your NON-FLUID OIL Lubrication Engineer and have him recommend the grade that is perfectly fitted to your particular needs. Write for descriptive bulletin and testing samples.

Current Quote

"The writer has been a user of NON-FLUID OIL in cotton mills for many years and you truly have the best."

Southern District Manager: FALLS L. THOMASON, Charlotte, N. C.
WORKS: Newark, N. J.

WAREHOUSES: Charlotte, N. C.—Greenville, S. C.—Atlanta, Ga. —Providence, R. I.—Detroit, Mich.—Chicago, Ill.—St. Louis, Mo.

N. Y. & N. J. LUBRICANT CO., Dept. TI
292 Madison Avenue, New York 17, N. Y.

Please send testing sample of NON-FLUID OIL to be used in the following machinery:.....

.....

.....

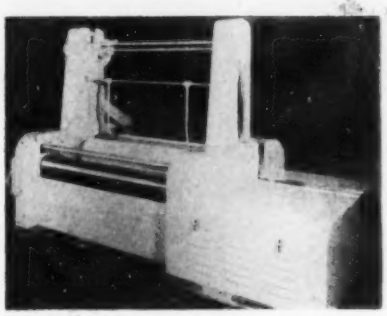
Name.....

Company.....

Street.....

City.....State.....

NEW YORK & NEW JERSEY LUBRICANT CO.
292 MADISON AVENUE, NEW YORK 17, N.Y.



Pneumatic Cut-off Winder

A plan to improve the appearance of textile equipment through "appearance designing" was recently announced by H. W. Butterworth & Sons Company, Philadelphia.

Under a streamlined steel cover is the Butterworth Simpson cloth winder. This improved pneumatic cut-off winder is equipped with pneumatic cut-off and an automatic slitter. The cloth can be cut and the next roll begun all in one automatic operation. This new winder saves refinishing of up to 50 yards of cloth that normally is spoiled in completing one roll and beginning another, according to the manufacturer. Savings are also claimed with regard to time and the strain of heavy lifting.

In addition to increased eye appeal, other advantages cited for appearance designing are: The cover protects the working parts from dirt and foreign matter, thus reducing maintenance problems; workers are protected from moving parts; in the case of washers, etc., the liquor is prevented from leaking and splashing; the covers are designed for quick, easy removal when adjustment, repairs or cleaning becomes necessary; the machine is equipped with individual motor drive and has centrally controlled lubrication.

Electric Tachometer

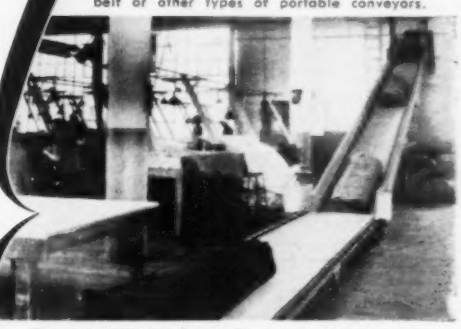
A new hand-held electric tachometer which weighs only 3 lbs. has been announced by the special products division of the General Electric Company. The instrument is designed to give accurate and direct readings of linear speeds from 10 to 10,000 fpm, and of rotational speeds from 100 to 10,000 rpm. Using accessories, rotational speeds from 10 to 100,000 rpm may be measured.

Typical applications are reported to include measuring rotational speeds of motors, generators, turbines, and engines; measuring cutting

Need any one or all Three?

SEE STANDARD'S EXHIBIT BOOTHS 508 & 607 2ND MATERIALS HANDLING EXPOSITION CLEVELAND JAN. 12-16, 1948

Bundles, bags and cases can be reloaded and baled with equal ease by the Handibelt or other types of portable conveyors.



The material transferred from one department to another can be expedited by belt conveyors and Inclinebelts.

Boxes, crates, bales and baskets may be moved from one level to another by pushbar conveyors.

INVESTIGATE the use of conveyors. Conveyors handle a wide variety of parts, packages, barrels, bundles, boxes, bales and cases. Available in light, medium or heavy-duty types — portable or stationary — as systems, sections or units — power or gravity fed, that give you remarkable savings in time, money and manpower conservation. They relieve confusion and congestion.

Standard Conveyor Co. has the experience and facilities to engineer, recommend and furnish the right type of conveyor for your particular needs.

Write today for Catalog No. C-127 — "Conveyors by Standard" — ready reference on conveyor types and systems.

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General Offices: North St. Paul 9, Minn.
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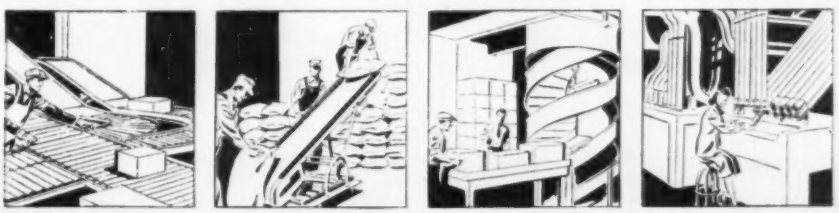
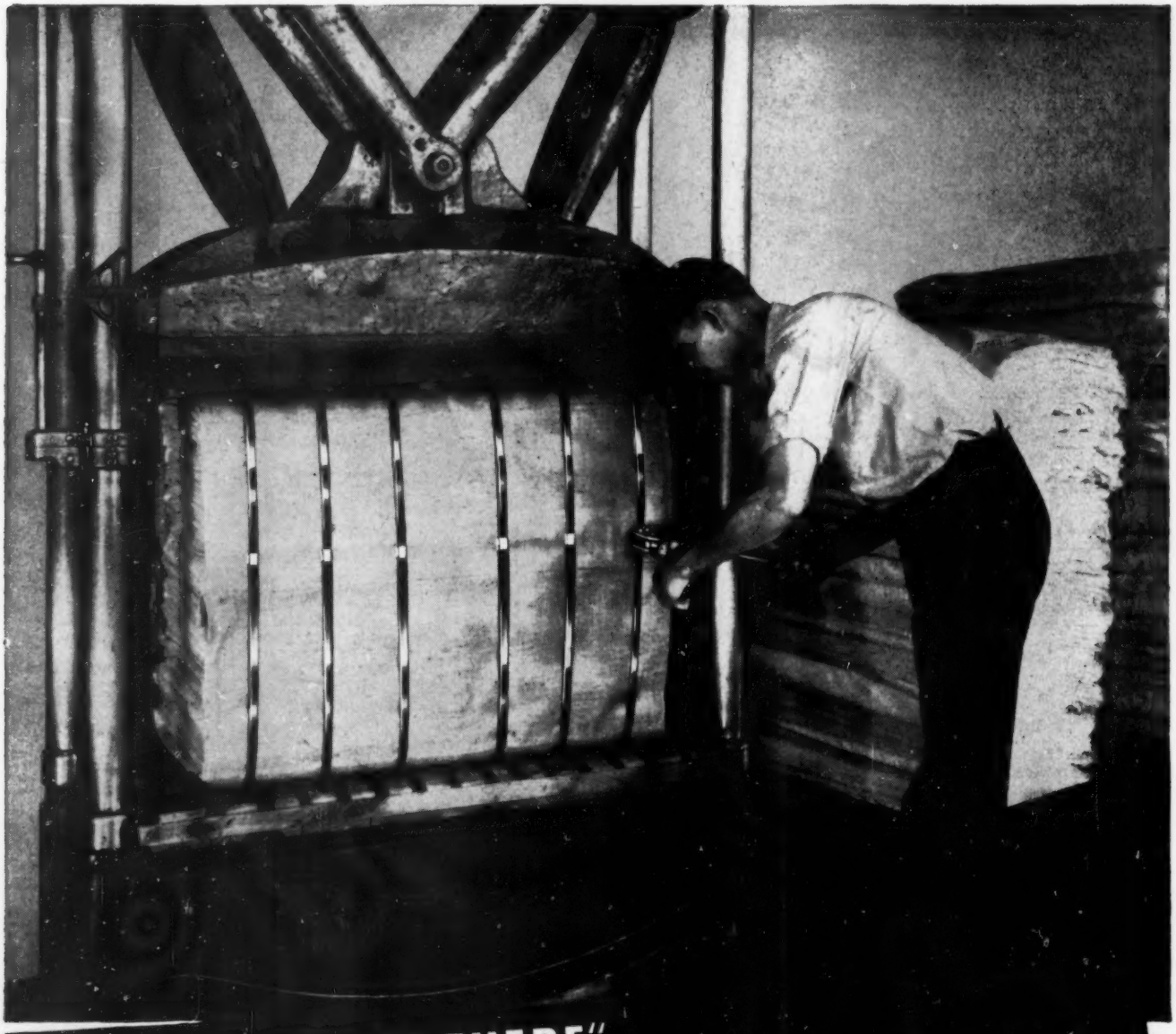
GRAVITY & POWER
CONVEYORS



ROLLER · BELT · SLAT · PUSHBAR CONVEYORS • PORTABLE CONVEYORS AND PILERS • SPIRAL CHUTES • PNEUMATIC TUBE SYSTEMS



"BOUND TO GET THERE"

Boxed, Bundled or Baled!

...WITH Acme Steelstrap

REG. U. S. PAT. OFF.

No matter how your textile product goes, it will move more secure against everyday shipping hazards when banded with Acme Steelstrap.

You save, too, on warehousing space, shipping weight, dunnage, freight claims . . . and profits rise proportionately.

So, whether your textile shipments are single units, carloads of freight, or ships' cargoes . . . use Acme Steelstrap for boxing, bundling, or baling. It means the most efficient shipping pack.

NEW YORK 7 ATLANTA CHICAGO 8 LOS ANGELES 11

ACME STEEL COMPANY

ACME STEEL CO.
CHICAGO

speeds in fpm on lathes and milling machines; and measuring linear speeds of planer beds, shapers, band saws, and conveyor belts.

The tachometer consists of two units—the head, which is placed in contact with the moving object, and the indicating unit to which the head is attached by a flexible electric cable. Speed ranges can be changed while the spindle is rotating because there is no gear transmission to shift for various speed ranges. Accurate speed indications are assured by a low driving torque of only ¼ ounce-inch. The instrument cannot be damaged by overspeeding, it is claimed.

Vibration from the rotating machine does not affect the reading or make the instrument difficult to read. The instrument can measure both clockwise and counter-clockwise rotation. It is furnished in a carrying case.

Humidity Indicator

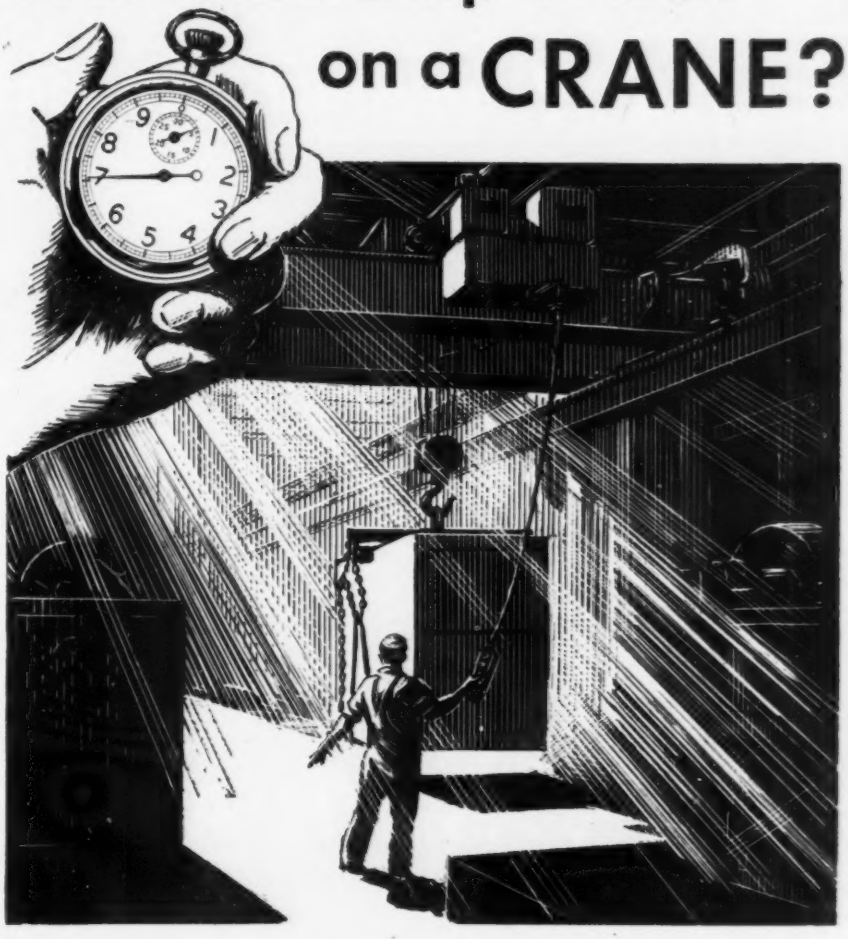
A quick-reading all-metal humidity indicator, designed for use in industry and laboratory, has been announced

by the Weston Electrical Instrument Corporation, Newark, N. J. The indicator is reported to provide readings of relative humidity accurate within 1% for general conditions.

The instrument is of wet and dry bulb type, and features metal Weston laboratory thermometers, self-supporting wet-bulb wick covering the thermal element, all-metal construction, and a simplified slide rule calculator giving relative humidity reading directly.

The unit is light and well balanced, and can be swung if desired to create air movement. The only maintenance necessary is to change the wick occasionally and replenish the water in the reservoir, which is a heavy-walled, large-capacity jar, covered to reduce undue evaporation.

Ever use a Stop Watch on a CRANE?



It isn't necessary to work in fractions of a second but it will pay you to check the time it takes to move heavy materials from one spot to another. No matter how efficient you are in operations involving manufacturing, processing or fabricating, there's bound to be a waste of time, money and manpower unless your handling costs are kept down.

Let trained, experienced Shepard Niles engineers assist you in making a study of your handling problems. Over a period of many years America's oldest builder of electric cranes and hoists has assembled data on the handling of materials in thousands of businesses. All this experience is available to you, without obligation, to help you select the crane best suited to do your job with ease, economy and efficiency.

Every hoist application is different. With a background of experience in installing electric hoists in every type of business, Shepard Niles can give you invaluable assistance in planning. This assistance is available without obligation.

465 SCHUYLER AVE. • MONTOUR FALLS, N. Y.

NOW—constant yarn tension...

...WITH ANY YARN—

THE *KIDDE* TENSION COMPENSATOR

automatically maintains constant output tension —at any desired value from 15 to 120 grams— regardless of changes in yarn coefficient of friction, input tension, yarn speed, or variations in mill temperature and humidity.

Just set the calibrated dial of the Compensator —lock it in position—and the ball-bearing compensating disc will keep tension constant. In months of actual mill tests on all types of yarns, greatest variation from set tension was only 2 grams!

The *Kidde* Compensator is precision built for accurate, lasting performance. Heat-treated stainless steel balls give friction-free compensation. Guide most subject to wear is made of sapphire. Calibrating tension spring is fatigue-resisting beryllium copper.

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

REPRESENTATIVE APPLICATIONS

of the *Kidde* Tension Compensator include:

1. Filling Winding. Number of shiners and shell-offs is cut down, boosting loom efficiency. More yarn can be wound on bobbin—delicate yarns can be wound at higher speeds.

2. Plying of coarse yarns. Compensator permits magazine creeling—prevents corkscrews or uneven plying.

3. Rubber Warping. Compensator can be set to take out all of the stretch.

MAIL THE COUPON *for full details*

Walter Kidde & Company, Inc.
1290 Main Street, Belleville 9, N. J.
Gentlemen:
Please send me information on the *Kidde* Tension Compensator.
Name.....
Position.....
Company.....
Street Address.....
City..... Zone No. .... State.....

Walter Kidde & Company, Inc., 1290 Main Street, Belleville 9, N. J.

PERSONAL NOTES

ABOUT MEN YOU KNOW

L. E. FIELDS of Columbus, Ga., and Eufaula, Ala., has accepted the position as overseer of weaving at the Micolas Cotton Mill, Opp, Ala.

CLIFFORD W. BROWN, former assistant manufacturing agent, has been named manufacturing agent of the Arlington Mills division of William Whitman Co., Inc., at Lawrence, Mass. He succeeds J. SIME MERCER.

DONALD COMER, chairman of the board of Avondale Mills, has been elected by the Dixie Business magazine as the South's "Man of the Year."

WALTER B. HILDEBRANDT has been appointed technical director of Rayco Affiliates, otherwise known

as The Railway Supply & Mfg. Co., the parent organization of a number of textile and consumer goods operations.

R. STEWART KILBORNE, of New York, has been elected president of William Skinner & Sons, silk and rayon manufacturers. Mr. Kilborne, former vice-president, succeeds his uncle, the late William Skinner. WILLIAM SKINNER KILBORNE, brother, was elected vice-president.

B. P. ALBRIGHT, former superintendent of the Oakleaf and Unity spinning plants of the USEO division of Callaway Mills, has been made assistant vice-president. Mr. Albright resigned his former position with Callaway last January to accept the position as vice-president of American Yarn and Processing Co., Mt. Holly, N. C. Following the resignation of W. B. HILL, assistant vice-president of the USEO division, he returned to Callaway as general superintendent of USEO.

For Unusually Smooth Permanent Hands

ONYXSAN LG has all the outstanding properties which have made the Onyxsan Series of cation-active softening agents so valuable, plus the ability to provide unusually attractive, smooth, drapable hands. It is further distinguished by the exceptional resistance to washing exhibited by the finishes it gives. On cotton, rayon and bemberg this finish is permanent.

Like the other Onyxsans, the action of Onyxsan LG is to effect a characteristic change *within* the yarn itself, instead of applying a superficial surface effect such as obtained by lubricants.

If you are interested in obtaining a wide variety of durable hands on your materials, the economy and versatility of Onyxsan LG call for investigation and trial.

- Substantive to many textile fibers.
- Small quantities produce its characteristic effects.
- Stable to hard water, chlorides, sulphates and organic acids.
- Easy to apply in the jig, pad, quetsch, dye beck, etc.
- No odor, rancidity, stiffness or mark-off.

Onyx Oil & Chemical Company

JERSEY CITY 2, N. J.

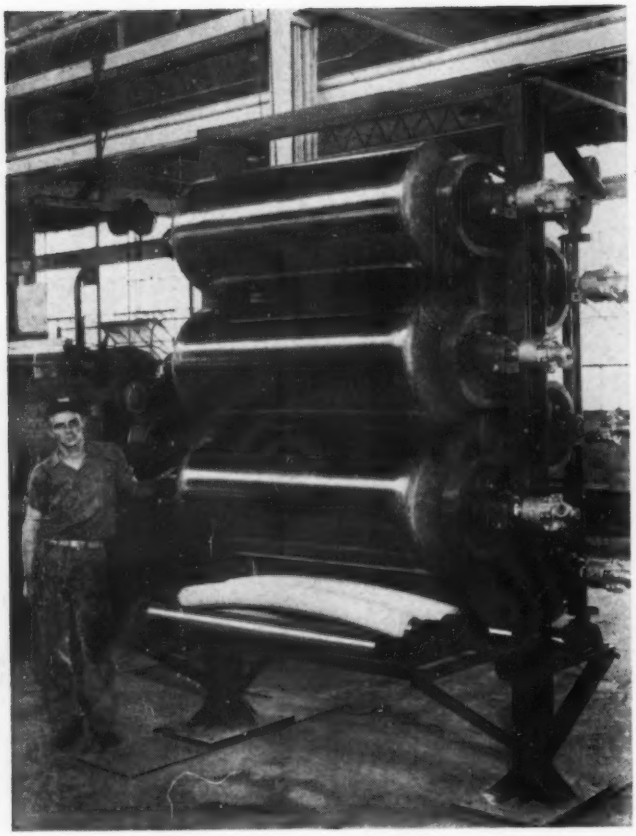
CHICAGO • PROVIDENCE • CHARLOTTE • ATLANTA • LOS ANGELES

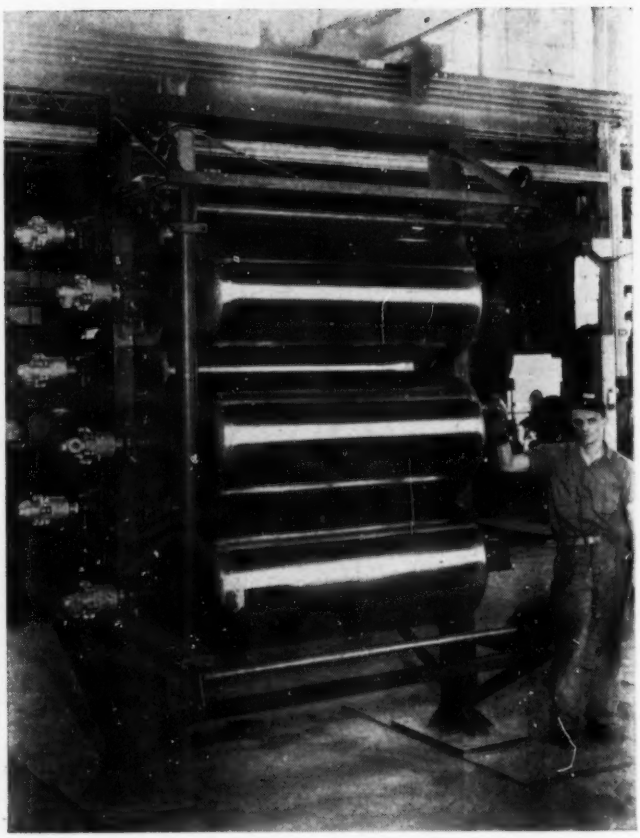
In Canada: Onyx Oil & Chemical Co., Ltd. Montreal, Toronto, St. Johns, Que.

For Export: Onyx International Jersey City 2, N. J.

onyx CHEMICALS FOR DYEING AND FINISHING

UNISTEL





SIX CAN Stainless Steel Dryer

All welded stainless steel dry cans constructed to the A.S.M.E. unfired pressure code for 35 pounds steam working pressure. Ball bearing equipped throughout with chain drive transmission. When you buy Stainless Steel Cylinder Dryers of any type, you are investing in high priced equipment from which you expect a definite return for many years. In order to realize your expectations, buy stainless steel quality.

Unistel dryers are manufactured in a shop that was built for and has always specialized in stainless steel fabrication.

A new machine for continuous dyeing, slashing, beaming of cotton yarns.

Engineers — Designers — and Builders of Back Dryers, Can Dryers, Slashers, Kettles, etc.

UNITED STEEL of AMERICA, INC. 30 ROCKEFELLER PLAZA NEW YORK 20, N. Y.

Canadian Representatives: United Steel Corporation Ltd. of Canada, Toronto

E. F. KING, former vice-president, has been appointed president of Dominion Burlington Mills, Ltd., Sherbrooke, Canada. He is succeeded by A. C. WERNER, a director of the company and president of Burlington Mills International Corp., New York.

JOSEPH A. GOLDEN, who prior to last March was associated with the American Woolen Company, has been appointed head of the men's outer-wear division of Burlington Mills Corporation of New York. He succeeds MORRIS GARDNER, who has resigned.

W. H. CORRY, formerly with G. D. Taylor & Son, Gastonia, N. C., cotton merchants, has been made general manager and assistant treasurer of Carolina Mills, Inc., Dillon, S. C. This position was previously occupied by E. H. BROWN.

J. N. LINDEKE, former vice-president in charge of the Minneapolis plant of the North Star Woolen Mill

Co., has been elected vice-president in charge of sales and merchandising for the entire company.

JESSE M. JONES has assumed the position of superintendent for Brighton Mills, Inc., at their Shannon (Ga.) plant.

The following promotions and changes have been effected at Avondale Mills: HOMER F. ROBERTS, formerly occupied in the dual capacity of superintendent of the Eva Jane plant and superintendent of all the Sylacauga operations, has relinquished the former duty to devote his entire time to the supervision of Sylacauga operations. GEORGE P. CALLAWAY, former foreman of the finishing department, has succeeded Mr. Roberts as superintendent of the Eva Jane plant. E. P. LAVOIE, former assistant in the finishing department, has been promoted to foreman. O. Y. LEWIS, foreman of the spinning department of the Catherine plant, has been appointed to the newly created position of superintendent of the Pilot plant. JAMES H. PAS-

WHY MORE MILLS LOOK TO NORTH

SLASHING
WEAVE-WELL
PRODUCTS

•

SHUTTLE
GREASE-RITE
TALLOW

•

FINISHING
FINISH-RITE
PRODUCTS

•

Northol P. C.
for use with any
make of machine,
for setting twist
and
conditioning yarns

PRODUCTS of unsurpassed quality and performance, plus an experienced knowledge that knows how to recommend their use for practical results—is convincing more mills, day by day, that NORTH is the place to turn for service and supply when changing conditions require new and highly specialized products to meet the problem at hand. Our men are trained in practice; not in theory. Our products pass the same exacting test.

◆

Among the nation's largest manufacturers of dressings for all warp yarns

FRANK G.
NORTH
INCORPORATED
MANUFACTURING CHEMISTS
ATLANTA, GEORGIA · P.O. Box 123, Sta. A · Phone RAymond 2196
MARIETTA, GEORGIA · P.O. Box 92 · Phone Marietta 250

Lanese*

is an important factor in market acceptability of spun fabrics

Lanese... trademark for Celanese* cellulose acetate staple fiber ...contributes factors responsible for the fast-growing market acceptance of blends. Many new and saleable weaves result when Lanese in dominant proportions is combined with cotton, wool or viscose process rayon fibers.

A high content of Lanese also insures a cloth with a pleasing hand, excellent drapability and dimensional stability. The soil-resistant, quick-drying and easy-cleaning properties of Lanese are well known.

POINTERS TO LANESE

Exceptional price stability—avoids need for hedging
Appreciably less waste—quality scientifically controlled
Staple lengths uniform from bale to bale—no off-grades
Continuity of supply makes long-range inventories unnecessary
Scientifically controlled crimp
Greater dimensional stability

Celanese* Lanese*

SYNTHETIC STAPLE FIBER

*Reg. U. S. Pat. Off.

CELANESE CORPORATION OF AMERICA, 180 MADISON AVE., NEW YORK 16, N. Y.

Branch Offices: PHILADELPHIA 7, 12 South 12th Street • CHARLOTTE 2, 1106 Liberty Life Building • BOSTON 10, 140 Federal Street

LEY has been promoted to foreman of the spinning department succeeding Mr. Lewis. The newly created post of general foreman of all spinning departments of the Sylacauga plants is to be held by R. R. POPE. JAMES PHURROUGH has succeeded Mr. Pope as foreman of the Eva Jane spinning department.

J. T. CHALMERS and G. C. CATER have been appointed superintendent and assistant superintendent, respectively, of Orr Mill, Anderson, S. C. Mr. Chalmers has succeeded JOE LYON, new general manager of Lowenstein mills in North and South Carolina.

CHARLES C. HERTWIG has succeeded WILLIAM D. ANDERSON as president of Bibb Manufacturing Co., Macon, Ga. Mr. Anderson continues as chairman of the board.

The Erwin Cotton Mills Co., Durham, N. C., has promoted MILES A. CARPENTER to the position of assistant superintendent of their No. 3 plant at Cooleemee, N. C.

Obituaries

ALFRED SUTER, 66, textile engineer and manufacturer of a complete line of textile testing equipment, died last October at the New Rochelle Hospital following a long illness.

DAVID L. SYKES, 86, chairman of the board of Sykes Bros., Inc., carpet yarn manufacturers, passed away last September at his summer home in Longport, N. J.

EDWIN MADISON ALLEN, 75, member of the board of directors of The Mathieson Alkali Works, New York, died at his home in Rye, N. Y., on November 2. Mr. Allen was formerly chairman of the board and president of the same company.

FRED A. DECKER, 60, vice-president of Textile Specialty Co., Greensboro, N. C., passed away November 10 at a hospital in Charlotte, N. C.

WILLIAM H. BURDEN, 64-year-old retired superintendent of Reading (Pa.) Full-Fashioned Hosiery Mills, died recently at his home in Reading.

S. WALTER BATTY, 56, advertising manager of Draper Corp., Hopedale, Mass., passed away October 25 at Milford Hospital.

LANDON U. LYNT, 78, former head of the Little Falls (N. Y.) Mfg. Co., passed away suddenly on October 4 at his home in Little Falls.

There's an easier way to get a Spinning Frame

Spinning frame — or any other type of textile machinery — the quickest, surest way is simply to *contact Comer.*

Comer has contacts in all the world's great textile centers where there are those who want to dispose of excess machinery—others who want to buy.

So, remember, to buy economically — or to sell profitably — *Contact Comer.* Write, wire or cable today.

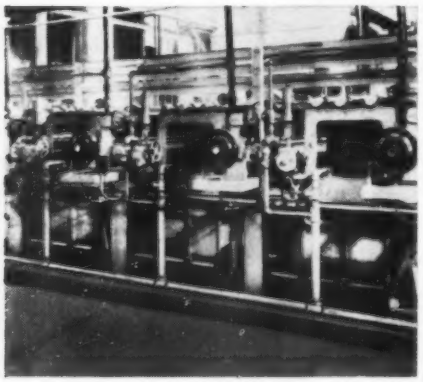
"SALES AROUND THE WORLD"

COMER MACHINERY COMPANY

Cable Address: COMACH

308 Ivy Street, N. E. — Atlanta, Georgia, U.S.A.

HOW THESE OPERATIONS CAN SOLVE THESE PROBLEMS FOR YOU



SOAPING VAT COLORS

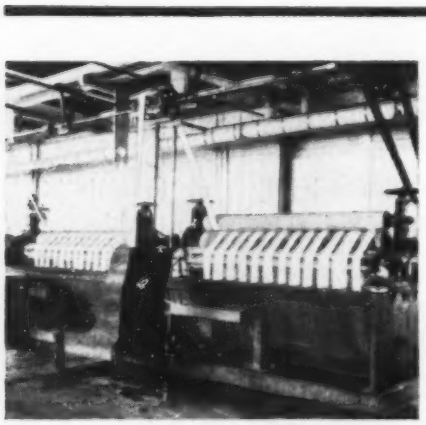
1. **Removing excess and lightly attached dye-stuff.**
2. **Getting clear, bright colors that will not rub off.**

Mere soaping alone isn't the answer to these two problems. It takes a *good soaping* with Armour's FLINT CHIPS to remove excess dye-stuff, clear the whites, brighten the colors. Since maximum soaping results are attained at about 180°-190° F., high titer FLINT is ideal. Besides, you get a thorough boil with FLINT, because it stays active even under steam. Results—sparkling, clean cottons!

FULLING, SCOURING REWORKED WOOL

1. **Fulling and cleaning the wool in a minimum amount of time.**
2. **Obtaining a clean, clear-looking piece of fulled cloth.**

For really successful fulling and scouring it takes Armour's TEXSCOUR Soap. TEXSCOUR, a red oil base soap in flake form, affords superior wetting and penetrating properties. At the same time, it has enough *body* for the fulling job. Good scouring must be done at low temperatures to keep the wool from felting and shrinking. That's why 8-12° titer TEXSCOUR cleans up fibres, leaves wool soft and resilient.



DESIZING COTTON

1. **Freeing cotton goods from sizing, prior to dyeing.**
2. **Avoiding spotty dyeing and uneven shades to secure a uniform finish.**

In desizing cotton, you need high wetting and penetrating properties rather than high detergency—a synthetic rather than a soap. The best solution to your problems is Armour's REGAL Synthetic Detergent. REGAL is a modern all-purpose synthetic that is readily soluble in cold or hot, soft or hard water. It rinses quickly and freely without insoluble deposit. Because of its swift penetration rate, REGAL reduces the time required for desizing operations, yet finished goods are free from sizing and permit level, uniform dyeing.

Remember, There are Armour Soaps and Synthetic Detergents to Solve All Your Textile Problems

ARMOUR and Company

Industrial Soap Division

1355 WEST 31ST STREET • CHICAGO 9, ILLINOIS

Carded Yarn Association Holds Charlotte Meeting

Convening in the Charlotte Hotel, Charlotte, N. C., November 19th, for the annual business meeting and luncheon, the Carded Yarn Association re-elected E. N. Brower of Rockfish-Hope (N. C.) Mills as chairman of the board; E. Owen Fitzsimmons, president; Harvey W. Moore of Brown Mfg. Co., Concord, N. C., vice-president; and Miss Juanita Nixon, Charlotte, N. C., secretary.

The principal speaker at the luncheon was Dr. Claudius T. Murchison, president of the Cotton-Textile Institute. It was Dr. Murchison's opinion that we are not headed for a slump as some people imagine, and that chaos will not follow the present business boom.

Warning that keen competition is coming back on the scene, he predicted that the result will be better textile products for the consumer.

Tariff Proposal Urges Increased Authority

A six-point tariff proposal calling for a revamped Tariff Commission with increased authority to set rates of duty and determine limits of concessions in trade agreements, and a closer Congressional control than at present, was put forward recently by U. S. Senator Albert W. Hawkes, principal speaker at the 62nd anniversary dinner of The American Tariff League at the Waldorf-Astoria Hotel, New York City.

League President H. Wickliffe Rose, in his report, urged the "protection of our productivity," particularly during the current chaotic period, and the maintenance of "a perspective and a proper relative emphasis on domestic production and foreign trade."

The six-point tariff policy announced by Senator Hawkes, member of the Senate Finance Committee, declares in substance:

1. Tariffs are the fairest means of equalizing low-standard conditions with which the U. S. does not want to compete.

2. "Unless there is a definite need for a tariff, we should not have one, except where for revenue purposes."

3. A new Tariff Commission with commissioners "of the highest ability and integrity," with long tenure and adequate salaries, should have authority to determine proper tariff rates pursuant to policy set by Congress.

4. The new Tariff Commission should have power to make or change rates, through Presidential proclamation, if not disapproved by Congress within a specified time.

5. Congress should by statute set standards for rate-setting, and provide for flexibility to meet changing conditions, with limits on the frequency of changes.

6. "A program of tariff changes by negotiation, through the Department of State, could perhaps be continued provided there was reasonable equality of concessions," the rates to be those set by the new Tariff Commission.

Greenville Show Plans Progressing

A special meeting of the executive committee of Textile Hall Corporation was held recently to perfect plans for the 15th Southern Textile Exposition, which is to be held October 4 to 9, next year. More than a hundred applications for space have been received, and others are coming in, according to the announcement.

The arrangements for housing exhibitors and visitors have begun for the coming event. The Greenville Chamber of Commerce and the Greenville civic societies are cooperating in the matter of housing. They have promised their assistance toward making the Exposition a success.

Allotments of space will be started in the early winter, and assignments will be announced to applicants as soon thereafter as practicable.

The three young ladies pictured above comprise the personnel of the newly created "Fabric Design Department" of the Avondale Mills, Sylacauga, Ala. Left to right are Ann Watson, Peggy Davis, and Frances Weaver. Using Avondale's fabrics, they create new designs in dresses, smocks, aprons, evening gowns, as well as designs for curtains, table cloths, etc. Through the establishment of this department, Avondale is making another step forward in establishing customer good-will, service, and at the same time keeping up with and anticipating the wants of the public in new and better fabrics in modern designs, colors, and finishes.

Shortcut

TO ACHIEVING NATIONAL BRAND RECOGNITION

Not every organization finds it practical or feasible to build brand recognition through national consumer advertising. In most cases the cost of such a program is prohibitive.

But that doesn't mean that such organizations should drop all ideas of developing brand acceptance for their products.

One way to achieve such recognition is through the Certified Quality Program of the United States Testing Company, Inc. Reputable products are put through their paces in a series of scientific tests at our laboratories. If found acceptable, these products are Certified . . . are awarded the Seal of Quality . . . and are constantly check-tested as an added guarantee. They become part of a group of nationally known products of Certified quality.

The Seal of Quality . . . recognized as a buying guide by women's clubs, consumer groups, and shoppers everywhere . . . adds prestige to your brand, lifts it into that "golden circle" of consumer accepted trademarks.

May we discuss this with you further?

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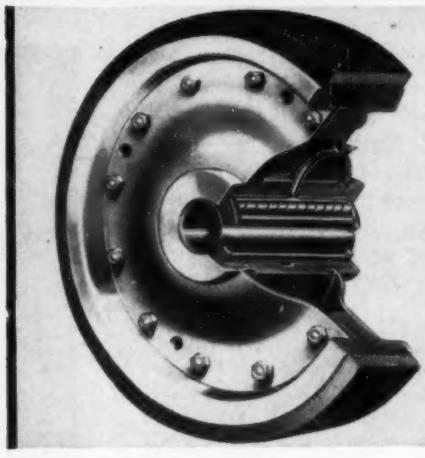
DARNELL

• Install these quality products on all of your movable equipment and they will pay for themselves in EXTRA service, EXTRA floor protection and in EXTRA employee efficiency.

Casters & Wheels



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60 WALKER ST., NEW YORK 13, N.Y.

36 N. CLINTON, CHICAGO 6, ILL.

NEW PUBLICATIONS OF TEXTILE INTEREST

Emery Industries, Inc., 4300 Carew Tower, Cincinnati 2, Ohio. Bulletin describing this company's new Twitchell Oils 476 and 507 for regular finishing and pre-shrinking.

National Adhesives, Div. of National Starch Products, Inc., 270 Madison Ave., New York 16, N. Y. Brochure entitled "Successful Case Sealing" describing the various types of shipping containers, the adhesives required to successfully seal each type, and a description of methods of sealing.

Glass Fibers, Inc., Waterville, Ohio. Booklet supplying in brief, the facts about Vitron glass fibers as made by this company, the process and the company.

The Louis Allis Co., Milwaukee 7, Wis. Bulletin 516-D, describes the line of "CT" rolled shell, shaftless, squirrel cage induction motors for built-in drives, with details of electrical and mechanical features, mounting, ventilation and applications.

L. Sonneborn Sons, Inc., Textile Chemicals Div., 88 Lexington Ave., New York 16, N. Y. Technical data bulletin on Raythro 75, a soaking compound that speeds up the production and improves the quality of rayon crepe yarns.

Armour and Co., 1355 West 31st Street, Chicago, Ill. Booklet on the newest of the Armour "Chemicals from Fats"—a group of alkyl trimethyl ammonium chloride compounds identified by the trade name Arquads. Important current applications are as cationic softeners.

Clark Equipment Company, Tructractor Div., 258 West Champion Street, Battle Creek, Mich. Current issue of Material Handling News, published by this company, relates how a fork-lift truck can be given a far broader usefulness by means of interchangeable attachments for special handling assignments.

Dinge Magnetic Separator Co., 4740 W. McGeogh Ave., Milwaukee 14, Wis. Bulletin describing the Perma-Pulley, a permanent alnico magnetic head pulley for belt conveyor systems, for removal of tramp iron, for purification of non-magnetic substances and for concentration of magnetic materials.

W. B. Connor Engineering Corp., 114 East 32nd Street, New York 16, N. Y. Bulletin K-20, a catalog and engineering data book on Kno-Draft Adjustable Ceiling Air Diffusers, including information and data necessary for the proper selection of air diffusers.

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis. Catalog for "pre-engineered" stock Texrope drives which simplifies drive selection in V-belt engineering. Also Bulletin O8B6319B on their automatic spring valve, said to give faster, smoother transition from priming or vacuum pumping to straight centrifugal action.

Foreign Commerce Dept., Chamber of Commerce, Washington 6, D. C. Booklet making available a concise and systematic discussion of the principles, practices, techniques, and problems of importing and exporting, entitled "Doing Import and Export Business."

Otis Elevator Co., 260 Eleventh Ave., New York 1, N. Y. Booklet describing this company's free Vertical Transportation Engineering and Planning Service.

Puritan Chemical Co., 916-932 Ashby St., N. W., Atlanta, Ga. An encyclopedia of information coupled with a sales catalogue, of use to firms interested in cleaning, sanitation and maintenance of their properties.

The Lunkenheimer Co., Cincinnati 14, Ohio. Circular No. 534 on this company's new bronze union bonnet gate valve.

Benson Laboratories Inc., Bessemer Building, Pittsburgh, Pa. Folder which describes this concern's Formula A-N-1 for the treatment of certain symptoms of the common cold.

Zellweger Ltd., Uster-Zurich, Switzerland. Three folders: (1) Turicum, automatic reaching-in machine; (2) denting machine, with electric motor; (3) "Little Uster" warp tying machine, as manufactured by this company.

Dodge Mfg. Corp., Mishawaka, Ind. Folder on variable pitch sheaves for No. 2 and No. 3 fractional horsepower V-belts, the single groove FHP sheaves for No. 2 and 3 FHP belts, and cast iron FHP sheaves. Also Bulletin A-410 on this company's Taper-Lock flexible coupling.

American Oil & Disinfectant Corp.,

Why Not? *Have Your* **PERSONAL ACCIDENT** *and* **HEALTH INSURANCE** *with . . .*

EASTERN COMMERCIAL TRAVELERS

Mutual Association • Direct Purchase

No Branch Offices

Massachusetts Company, Incorporated 1894

Insure Your Earnings . . . Protect All!

ACCIDENT POLICY PAYS		SICKNESS POLICY PAYS	
$5,000.00—$10,000.00 FOR ACCIDENTAL DEATH	$25.00—$50.00 FOR WEEKLY DISABILITY	$25.00 PER WEEK FOR CONFINING SICKNESS	$10.00 PER WEEK FOR NON-CONFINING SICKNESS
Estimated Annual Cost $15		Estimated Annual Cost $24	

MORE THAN 50 YEARS OF UNFAILING SERVICE

Provides protection 24 hours a day when traveling, while at work, around the home or on vacation

NO POLICY CANCELLED OR RATES INCREASED OR ANY BENEFITS REDUCED ON ACCOUNT OF ADVANCED AGE!

SEND THE COUPON **TODAY**

John S. Whittemore, Sec.-Treas.
Eastern Commercial Travelers
80 Federal St., Boston

Without obligation, please send complete information and application for membership to

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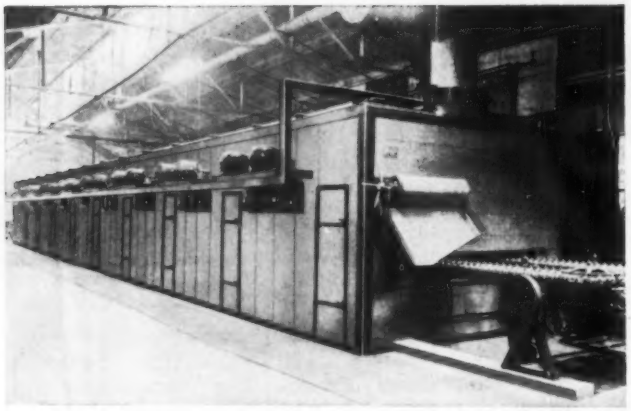
T.I.47 (No Solicitors Will Call)



Greater Drying Capacity Per Lineal Foot of Frame

WITH THE

"NATIONAL" SR-4 TENTER DRYER

All features of the "NATIONAL" SR-4 contribute to the *greater drying capacity* . . . and *lower drying costs* . . . consistently maintained with this high-powered, flexible machine. Among them are the fine-mesh filter screen; adjustable volume fans; individual unit control; easy accessibility to all parts of dryer and frame. Compact design, for low head room. Rigid, durable construction, for long service life.

Learn how the SR-4 gives up to *twenty times* greater production than is possible with other types of tenter dryers.

Send for This New Descriptive Folder

Automatic Piece Goods Dryers

Print Goods Dryers

Yarn Skein and Stock Dryers

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THE NATIONAL DRYING MACHINERY CO.

N. HANCOCK ST. and LEHIGH AVE., PHILADELPHIA 33, PA.

New England Agent—C. H. INGALLS, Providence, R. I.

LEATHER LOOM STRAPPING

JACOBS

Every piece of Jacobs Leather Loom Strapping is tailor-made to your own requirements from the finest Oak or Hairy Leather obtainable. There's less loom fixing with Jacobs Leather Strapping.

JACOBS *Reinforced* VERYBEST
CHECK STRAP

12½% MORE Wearing Surface
More Gradual Checking
Less Loom Shock • Power Savings
Conformity to Picker Stick

E H JACOBS MFG. CO.
EST. 1869
DANIELSON CONN. CHARLOTTE N. C.

88 Lexington Ave., New York 16, N. Y. A folder on this company's all-purpose cleaner and detergent, known as Whistlclean, which is non-inflammable and non-corrosive.

Hercules Powder Company, Inc., Wilmington 99, Del. Technical booklet which includes a description of the properties and uses of all Hercules synthetic resins.

H. Brinton Co., Kensington Ave. and M St., Philadelphia 24, Pa. Folder with specifications on an improved machine, PR-19 rib body machine, for producing fabric constructions. Also folder entitled "50% Greater Production" which describes their RMP plain jersey machine.

The Plight of Britain

(*Continued from page 70*)

and take it easy after having made one's pile. The mere fact of a man's success is likely to convince him that his methods are the best and that any change will be risky. A whole industry or a whole nation can become pervaded with this same fatal philosophy.

The country in which the Industrial Revolution was born and where there was first the greatest activity in its development quite naturally could come to the conclusion that its economic leadership could not successfully be challenged. The rise of the trade unions in Britain further tended to crystallize this feeling of industrial security and opposition to change.

Just as the hand spinners and weavers of an earlier day had fought the introduction of machinery, the operators of the machinery later fought the introduction of better machinery, and the owners of the inefficient machinery therefore had little incentive to throw it out in favor of more productive equipment.

Just as the power loom rendered the hand loom virtually obsolete, the automatic loom has succeeded the plain loom, and every other machine which can be made automatic and do good work must inevitably succeed the one which requires unnecessary labor.

Any country which tries to defy this basic economic law is likely to go hungry for its defiance.

(To be continued)

HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

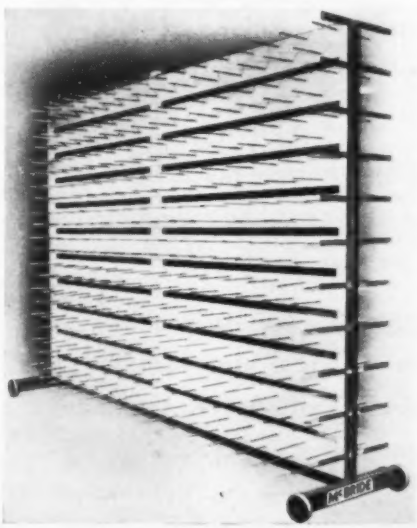
Metal Protection for Wood Turnings

J. N. ANDERSON, *Treas.*
LAWRENCE, MASS., U.S.A.

McBRIDE

JACQUARD PLUSH TYPE CREEL

CREELS FOR WARPING, WINDING, WEAVING, KNITTING



THIS CREEL USED IN WEAVING ALL TYPES OF PILE FABRICS

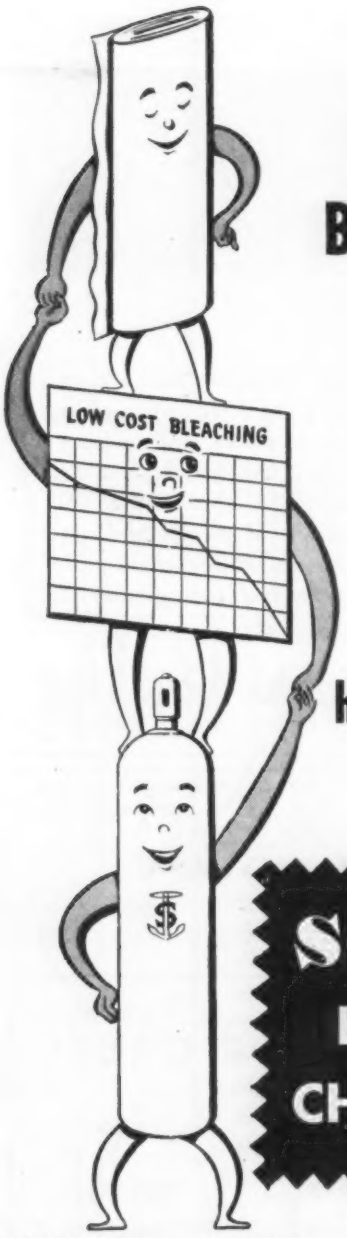
THIS CREEL FEATURES SIMPLICITY OF CONSTRUCTION AND IS MADE OF THE FINEST KILN DRIED LUMBER WITH WELDED STEEL END FRAMES, MOUNTED ON STEEL WHEELS.

The guides on these creels can be made with brass eyelets for resistance to the fraying and chafing of rayon yarns, etc., or they can be had with porcelain eyelets which will resist wear indefinitely, especially on such yarns as silk and mohair.

These Units Can Be Made In Any Size To Any Specifications.

EDWARD J. McBRIDE

Adams Avenue & Leiper Street—Philadelphia, Pennsylvania—Phone Jefferson 5-8622



QUALITY BLEACHING and LOW COST go hand in hand with

SOLVAY LIQUID CHLORINE

SOLVAY LIQUID CHLORINE is recognized by leading textile houses as the *time-tested* bleaching method. It is *lowest in cost for mass production.*

SPECIFY SOLVAY LIQUID CHLORINE. It combines controlled quality, low cost and high standards of purity with dependable performance. Available in tank cars and ton containers.

SPECIFY QUALITY ... SPECIFY SOLVAY

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FRIEND OF THE PLANT OWNER... WHO HAS A WET SURFACE MAINTENANCE PROBLEM

The Damp-Tex system of painting kills rust, rot, fungus and bacteria. Stops deterioration. Can be applied on any paintable surface, *wet* or dry, with equal ease and efficiency... changing dingy, rough light-blotter interiors into glistening porcelain-like beauty. One coat covers. Resists acid, alkali, corrosive gases and oxidation. Dries overnight without flavor-tainting odor into waterproof film. Comes in white and colors. Write for our trial offer.

LIQUID PORCELAIN-LIKE
DAMP-TEX FOR WET OR DRY SURFACES

STEELCOTE MFG. CO. • ST. LOUIS, MO.

Canadian Manufacturer: Standard Paint & Varnish Co., Windsor, Canada

AN

EXECUTIVE VIEWS

THE NEWS IN TEXTILES

The Spirit of Giving

The true spirit of Christmas has been evidenced by the large number of southern textile mills which have recently donated cloth to the destitute women and children of Europe, in answer to a plea from a special committee of the American Cotton Manufacturers Association. The request, which was in the form of a letter from the committee, went out to textile executives late in October, and in the weeks that followed an excellent response has been received. After only a few weeks of effort, a total of approximately a million yards of cloth has been pledged by the mills, and something like half a million yards have actually left mill shipping platforms.

The Association announced that cloth of many different constructions has been contributed, and that the response to the committee's appeal has been quick and most liberal. It was stressed that an attempt is being made to get a large part of the goods to Europe before the arrival of the severely cold weather of midwinter.

Export of the cloth from this country, as well as its final distribution overseas, is being handled by the American Friends Service Committee, a Quaker organization better known as "The Friends." It was felt that the Quakers would see to it that the cloth reached those who needed it most, and with a minimum distribution cost.

The entire plan for the contribution of cloth to Europe is an outgrowth of the American Association's annual meeting last spring in Augusta, Ga. It was at this meeting that a representative of Herbert Hoover made the initial plea, and as a result of this, Fuller E. Callaway, Jr., chairman of the Association's board of government, appointed the committee consisting of Sibley, Montgomery and Lanier.

The results of the plan cannot be accurately measured in yardage. It must, instead, be measured in terms of human lives—the lives of women and children, of people who more than two years after the war are fighting the Battle for Survival. In whatever measure this program of cloth donations has brought them relief, then in that measure has it succeeded.

Spartanburg Tour

Another cooperative program which proved to be tremendously important, although in a different direction from that of cloth donations, was the "open house" held some weeks ago by the mills of Spartanburg County, South Carolina, honoring the Governor, members of the State Legislature and other important state officials.

It would have been fine if at least one textile executive from each textile county in the nation could have witnessed this exhibition, because we believe that if they had seen the reaction to the Spartanburg program they would have been convinced that this was something that should be done in their own counties.

To begin with, the manufacturers held a banquet at 8:00 P.M. on the first day of the two-day program, and this was presided over by Dr. Henry Snyder, president of Wofford College. Members of the Spartanburg delegation welcomed the visiting legislaturemen, and stressed the theme of the program, which to us seemed to be: "This is Spartanburg County's textile industry. We want you to see it, and to see what it means to this county and to the state."

Remarks were made by the Governor and by prominent senators and representatives. The address of the evening, "The Textile Industry in Spartanburg County," was made by W. P. Ligon, vice-president and general manager of the Reeves group of mills. Following this a style show was presented which illustrated the many and varied types of goods produced by the county's mills.

The following day, automobiles and station wagons were waiting in front of the hotels, and guests were taken on a tour of several mills, seeing spinning, weaving, and finishing. It may seem trivial, but we believe it is important to note that drivers of the automobiles and station wagons were textile executives and not hired chauffeurs. This same "personal touch" was evident throughout the two days of the program, which ended with a luncheon immediately fol-

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keep in touch with your entire organization by

KELLOGG

SELECT-O-PHONE

PRIVATE AUTOMATIC TELEPHONE AND PAGING SYSTEM

Run your business from your desk—no need for you and your key personnel to chase each other all over the office or plant. A simple, economical installation of the Select-O-Phone System will establish instant inter-communication between five to thirty-six desks... keep the private exchange switchboard and rented telephones free for outside calls . . . reduce toll charges . . . cut delays.

A spin of the dial puts you in touch with any one on the system for a *strictly private* conversation or a round table conference. Any station may call any other station. Patented feature permits *unlimited simultaneous conversations.* The Select-O-Phone System is the easiest to install, maintain and expand . . . flexible, most economical, efficient, *complete* . . . built by Kellogg—for 50 years a leader in the development and manufacture of telephone equipment!

Learn how the Kellogg Select-O-Phone System can solve your inside communication problems. Contact nearest distributor or mail coupon.

Own Your Own Complete Inter-Communication System

SELECT-O-PHONE DIVISION
KELLOGG SWITCHBOARD & SUPPLY CO.
310 West 6th Street, Kansas City, Mo.

Send full data on Select-O-Phone Dial telephone system.

Name_____

Company_____

Street_____

City_____ State_____

lowing the tour of the plants.

To our way of thinking, the Spartanburg manufacturers did a fine service, not only to the industry of their own county, but to all industry in the state. Many of the guests had never been inside a textile plant, although during the next session of the Legislature they no doubt will have before them numerous bills affecting the destiny of the industry. Most of them had never seen textile manufacturers in their "natural habitats," nor seen the many improvements made in recent years in housing, recreation and working conditions.

When the program was over, one legislatureman was heard to remark, in effect: "Why, I had no idea what sort of working conditions existed in textile mills! I had always thought of the mills in terms of noise and lint and poor lighting!"

In that statement there is a great deal of food for thought for all of us who make managerial decisions in the textile industry. And let's not forget that it was a statement made by a man who helps to make the laws of one of our great textile states.

It seemed to observers that the Spartanburg tour was highly successful. It has been explained in some detail here with the thought in mind that it might well set the pattern for similar programs in other textile counties.

Arrangements were under the direction of a special committee composed of the following: James A. Chapman, president and treasurer of Inman and Riverdale Mills; M. L. Cates, treasurer, Arkwright Mills; H. A. Ligon, treasurer, Reeves Mills in Spartanburg County; C. B. Hayes, vice-president, Pacific Mills; Walter S. Montgomery, president and treasurer of Spartan, Startex, and Beaumont Manufacturing Co.; and Marshall C. Stone, treasurer and vice-president, Pacolet Manufacturing Company.

Trailer Service

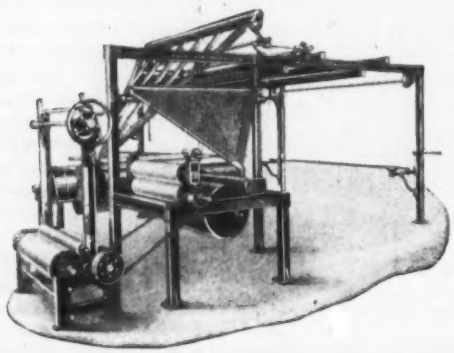
Spartanburg's "open house" is a far cry from this next item, but if you want to do some house-by-house remodeling and have been wondering what to do with the tenants while the house is being remodeled, the novel plan worked out by one Carolina mill may be of interest to you.

In this instance the mill utilized a trailer to take care of a family when it had to move out to make way for carpenters, painters and other workmen. One family would occupy the trailer for the time necessary to complete repairs and then would vacate so that the next family could move in.

The mobile unit was equipped with a double bed in the bedroom and a day bed in the living room, thus providing accommodations for four people. Connections were provided for a hot-plate, electric toaster and other such items, and water connections were made with nearby facilities.

So if you are having trouble figuring out what to do with tenants while remodeling is being done, maybe this solution will help you out. In this particular case the mill bought the trailer, but there's no reason in the world why one couldn't be rented, thus reducing the cost.

At any rate, as an acquaintance of ours frequently says, "it's something to think about."



DOUBLE DOUBLING MACHINE

Designed for use on wide sheetings to double the edges together twice. The goods are double doubled to one-quarter their original width, or four-ply. The machine is readily adjusted for different widths. After passing through the machine the double doubled goods may be folded for the market on our Cloth Folders or wound on boards on our Cloth Winders.

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MACHINE COMPANY
WORCESTER, MASSACHUSETTS

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WARP BEAM for
every application!
BROAD LOOM BEAMS
★ for Crompton & Knowles Looms
★ for Draper Looms (not shown)
RIBBON LOOM BEAMS
★ adjustable head with fixed shaft
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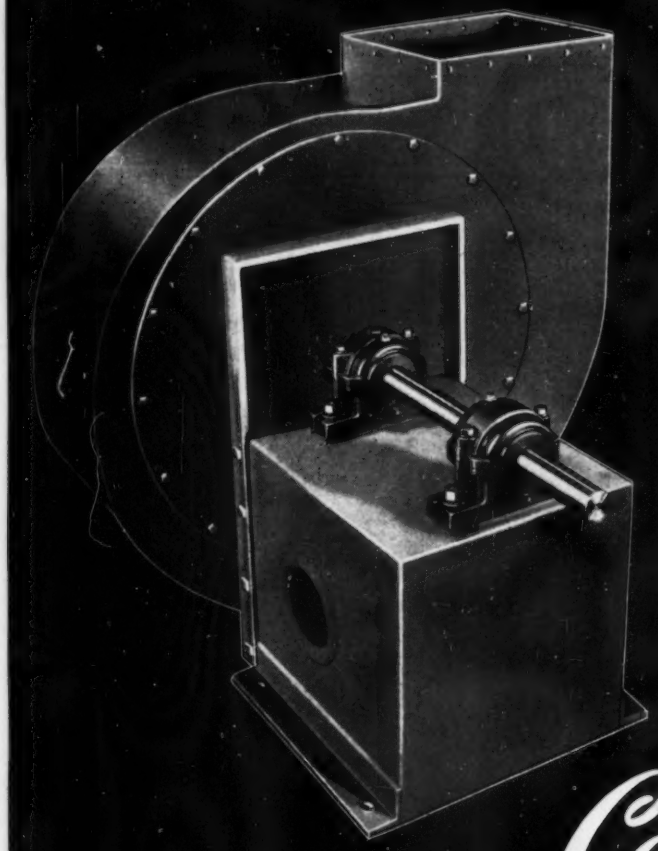
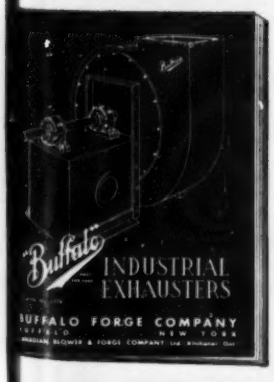
SPECIAL BEAMS
Get the complete story of Milton's role in the Textile Industry . . . WRITE FOR YOUR COPY OF CATALOG 455 (Steel Beams) OR CATALOG 45-A5 (Light Metal Beams)
MILTON MACHINE WORKS
DESIGNERS - ENGINEERS - MANUFACTURERS
MILTON, PENNA.

DO YOU EXHAUST FUMES OR MATERIALS?



THIS "Buffalo" INDUSTRIAL EXHAUSTER

Can Save You Money!



Why not investigate "Buffalo" Industrial Exhausters . . . and what they can do in your removal problems? Bulletin 3576 gives many helpful facts. Write for your copy!

. . . and hundreds of these husky new *continuous-service exhaust fans* ARE saving money in mills and plants. This is because "Buffalo" builds them to deliver more air per power dollar . . . and to stay on the job longer with very little maintenance cost.

Rigid, all-welded housing construction means added strength . . . and no rivet heads to impede air flow. Precision-balanced rotors give vibrationless performance.

"Buffalo" Exhausters are ready to cut your costs in material or fume removal. They are available with or without rubber lining, with material or air wheels, as desired.

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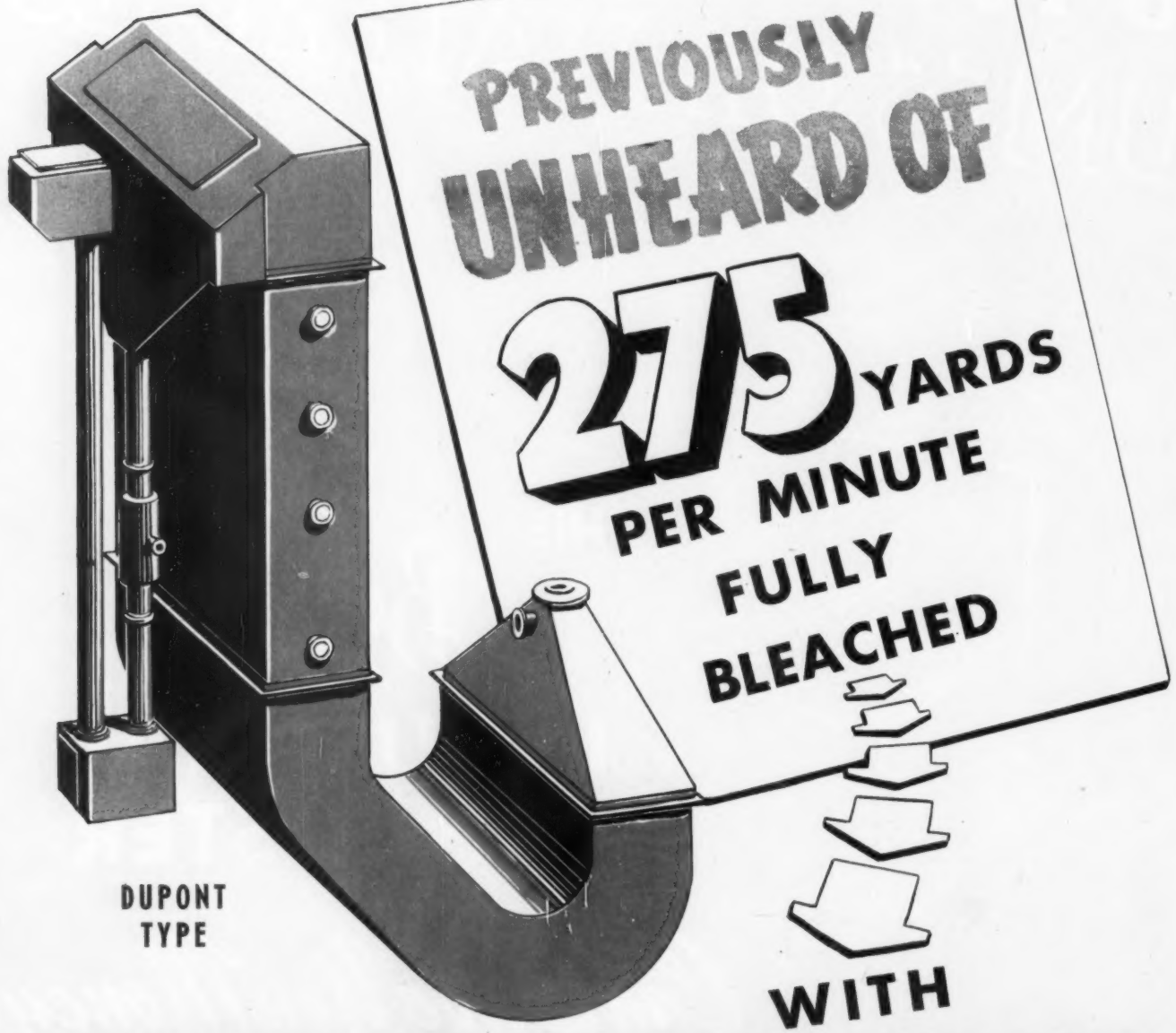
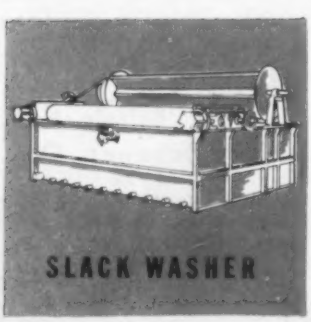
"Buffalo" INDUSTRIAL EXHAUSTERS


PREVIOUSLY
UNHEARD OF
275 YARDS
PER MINUTE
FULLY
BLEACHED
DUPONT
TYPE
WITH
WIESNER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SATURATOR
(ROPE TYPE)

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(OPEN WIDTH)

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The "J" Box is the heart

of Wiesner-Rapp Continuous Bleaching Ranges. New high-speed production of roped material started with the introduction of "J" Boxes.

To keep up with the potential bleaching output of "J" Boxes, Wiesner-Rapp designed and built entirely new revolutionary, stainless steel bleaching ranges that are turning out yardage at a rate up to 275 yards per minute — 132,000 yards every 8 hours. Our engineers have worked hand-in-hand with textile men to achieve this record rate of production and these same engineers will welcome an opportunity to talk with you. The size and capacity of your plant are no limitations. Hear the exclusive Wiesner-Rapp story first hand from our engineers by calling them in today to tell you how you can be ahead . . . stay ahead with —

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W-R

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ARKWRIGHT CORP. • DOMINION FABRICS, LTD.
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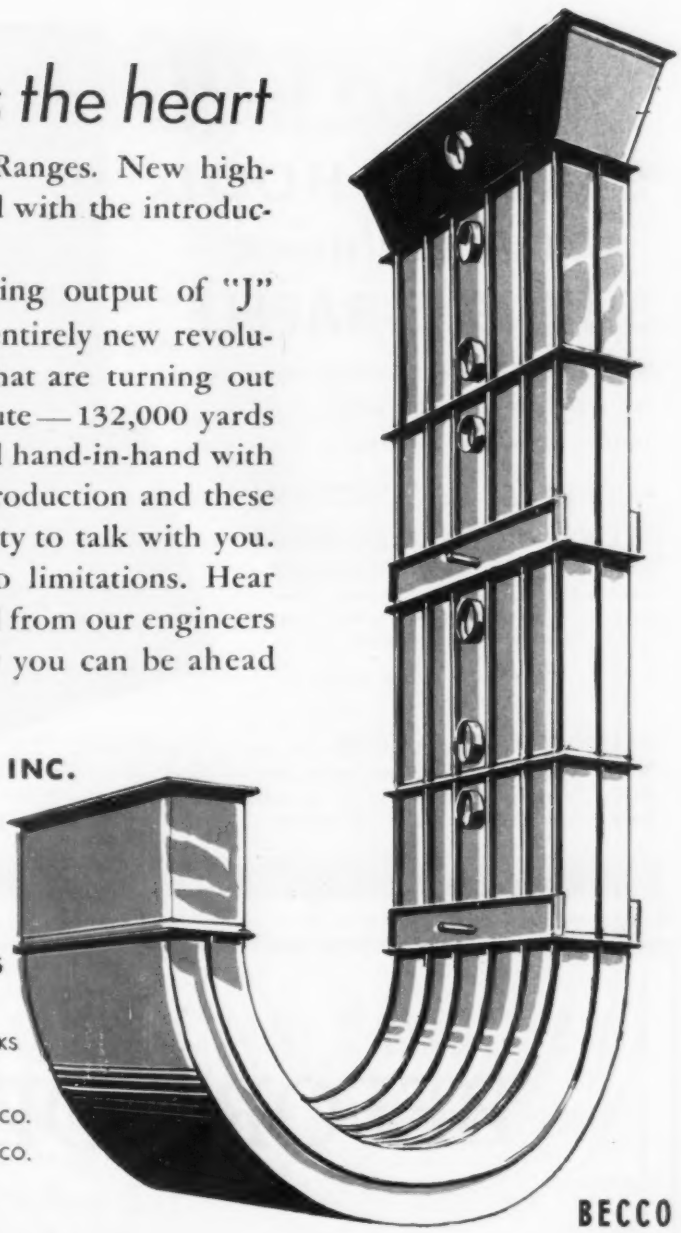
THE UNITED STATES FINISHING CO. • UTICA WILLOVALE BLEACHING CO.



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-RAPP Continuous BLEACHING RANGES

BE AHEAD ...STAY AHEAD WITH WIESNER-RAPP

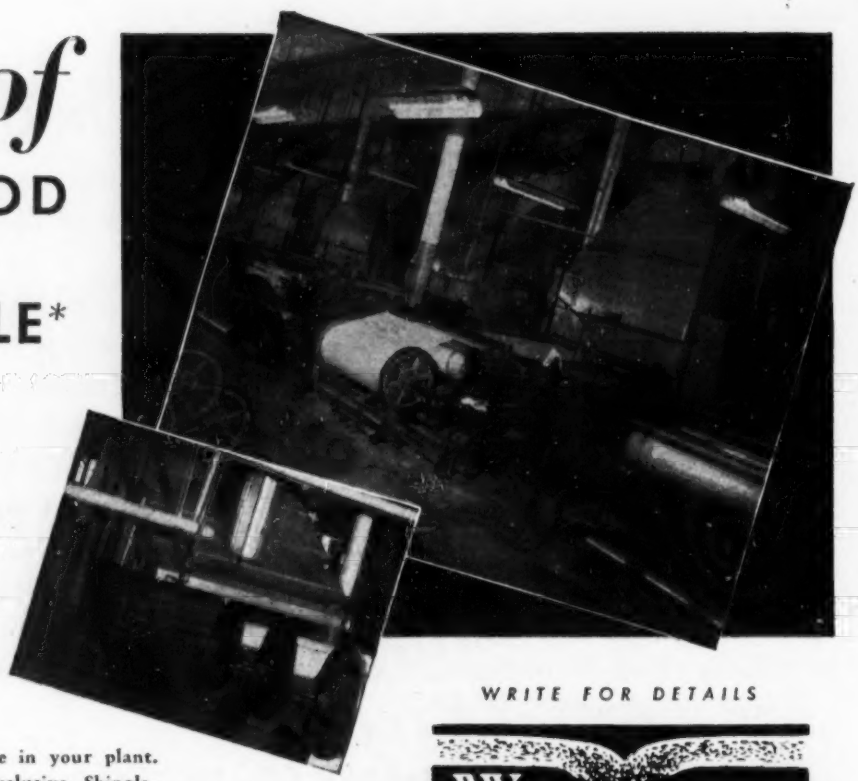
drip-proof
SLASHER HOOD
with exclusive
SHINGLE-BAFFLE*

Automatically collects all moisture from the slasher. Unique baffle construction controls all moisture condensation.

INCREASES PRODUCTION
STOPS PRODUCT DAMAGE

Drip prevention, based on WOLVERINE'S sound engineering principles, eliminates work stoppages . . . keeps production flowing. Products are virtually insured against drip damage.

*** Patent Applied For**



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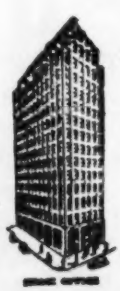
EQUIPMENT CO.
31 MAIN ST., CAMBRIDGE, MASS.

BEFORE DECIDING—

on any plan of Group, Hospital, Surgical or Death Benefits for your employees, BE SURE that you have examined the Protective Plan. This Plan has many advantages for employees and their families and for the EMPLOYER. We will gladly furnish you names of many leading companies for whom we have worked out a plan to fit their particular needs.

PROTECTIVE LIFE
INSURANCE COMPANY



WILLIAM J. RUSHTON
President

BIRMINGHAM
ALABAMA

WHAT THE TEXTILE MILLS ARE DOING

Tolar, Hart & Holt Mills, Fayetteville, N. C., have installed new machinery, including twelve Whitin Model L cards, eight Saco-Lowell FS-2 roving frames, and eighteen Whitin F-2 spinning frames which are equipped for synthetics.

A complete dye house has been equipped at Hyde Park Mills, Inc., Covington, Tenn., giving a dyeing capacity of 12,000 to 15,000 pounds a week for package dyeing. Stainless Steel Gaston County dyeing equipment is being used.

American Velvet Co., Stonington, Conn., velvet and plushes, has plans for alterations and improvements in the mill and will award contract soon.

Palmetto (Ga.) Cotton Mills, Inc., cotton duck, etc., has completed plans and let contract for an addition to the mill for an expansion in production.

Textron, Inc., Providence, R. I., has concluded arrangements for the construction of a one-story mill, to be occupied under long-term lease, in Royston, Ga. The cost is estimated at about $75,000, exclusive of equipment. Machinery and facilities will be installed for an initial working force of over 300 persons.

Strickland Cotton Mills, Valdosta, Ga., sheetings and kindred products, have let contract for a two-story addition to the mill, to cost about $140,000, exclusive of equipment.

Textile Mills Co., Chicago, Ill., special protective knit fabrics for ironing board covers and other domestic service, is reported planning a branch mill in Georgia. The specific site will be determined at an early date. The plant will comprise a main one-story mill and several auxiliary structures, including a boiler house, and the cost is estimated close to $1,000,000.

Howard-Arthur Mills, Inc., Fall River, Mass., lawns, twills, pongee, etc., has awarded contract for alterations and improvements in the mill, reported to cost over $60,000.

Verney Corp., Boston, Mass., rayon and worsted fabrics, has sold its branch mill at Fall River, Mass., including real estate and equipment. A portion of the machinery has been transferred to other mills of the company in the New England area, and the remainder has been sold to Crescent Corp., Fall River, machinery dealer.

Meansweave, Inc., has been incorporated with a capital of 1000 shares of stock, no par value, to operate a mill in Lowell, Mass., for the manufacture of worsted yarns. P. O. Wolcott is president and treasurer.

Nashawena Mills, New Bedford, Mass., plain and fancy cotton goods, have placed orders for additional equipment for installation in the mills. The cost is estimated at about $40,000, and the program is expected to be carried out by the close of the year.

Nonquitt Mills, New Bedford, Mass., combed cotton and spun rayon yarns, plan to install additional equipment reported to cost about $90,000, for which orders are said to have been placed.

Peitavino Silk Mill, Inc., has been organized with 5000 shares of stock, no par value, to operate a New Bedford, Mass., silk and rayon fabric mill. Emilio Peitavino is president.

Ulster Screen Printing Corp. has been chartered with a capital of 200 shares of stock, no par value, to operate a textile screen printing plant in New York, N. Y.

Wilson Textile Products, Inc., has been organized recently with a capital of $100,000, to operate a mill in the vicinity of Charlotte, N. C., for the manufacture of textile specialties. Penrhyn Wilson, Charlotte, is one of the incorporators.

Morrowebb Cotton Mills Co., Dallas, N. C., has been acquired by Max Schiffman, head of Shiffman Yarns Corp., New York, N. Y. Operations will be continued as heretofore with no change in character of output. The purchasing company also operates mills at Salisbury, N. C., and Hamlet, S. C.

Erwin (N. C.) Cotton Mills Co., denim, suitings, etc., has plans for

TON TEX
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GENUINE TON-TEX

LOOM HARNESS STRAPPING

Operates Better — Lasts Longer

Genuine Ton-Tex is made of plies of fine quality cotton fabric welded together. Balanced construction. Strong, flexible, absorbs shock easily. Operates at low maintenance cost.

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1. Less time for loading, heating, lacing, doffing, cleaning.
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3. Production of cleaner, higher quality work.

And Here's the Box We Designed

As specialists in fabricating stainless steel textile equipment, we present this new dyebox for quality dyeing. It assures all the time and money savings that dyers demand in new equipment — all the convenience of an open type box combined with the advantages of a fully enclosed box.

The NEW BLICKMAN DYEBOX

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Write for further information

S. BLICKMAN, INC.

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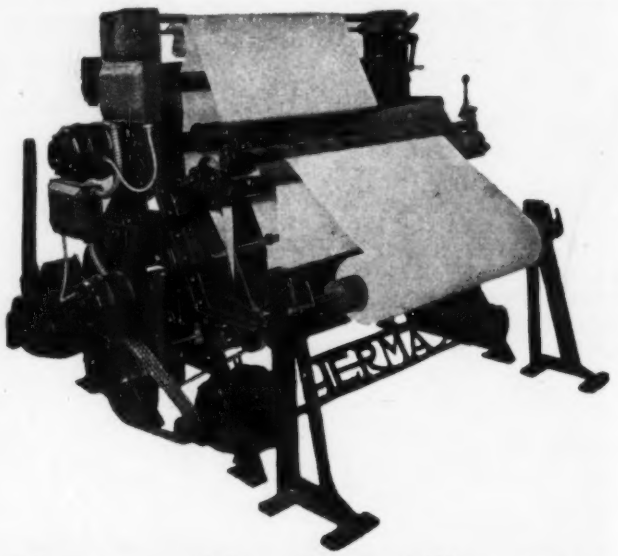
Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks



Naturally You Expect Better Performance from Hermas Shears in

1) Speed of Production
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—because Hermas Machine Company is the only concern in America, perhaps in the world, that specializes on Clothroom Equipment Exclusively.

Included in the Hermas Line Are:

Shears, Brushes, Examining Machines, Scrays, and many accessories for efficient clothroom operation.

Let us advise you when laying out your clothroom.

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Charlotte, N. C.

Ross Whitehead & Co., Limited
Toronto and Montreal, Canada

Unisel, Ltd.
Manchester, England

EXPORT DIVISION:
Francis H. Love
57 William St., New York City

an expansion and improvement program that will represent a reported investment of approximately $2,500,000. A considerable part of the expenditure will be made at the No. 2 and 5 mills in Erwin, with installation of new machinery and facilities. The mills at Durham and Cooleemee will also benefit from this program. Company housing projects are included.

Associated Spinners, Inc., New York, N. Y., cotton and worsted yarns, has arranged for the purchase of a large one-story building at Gastonia, N. C., heretofore known as No. 4 unit of Gastonia Industrial Factory Project. The structure will be equipped for yarn manufacture under the American system, with facilities for employment of about 50 persons for initial operations.

Leading Embroidery Co., North Bergen, N. J., has purchased the Marshall (N. C.) Mills, cotton yarns. The new company has been organized under the name of Marshall Cotton Mills, to operate property; yarn production will be continued as before. Leon Salkind, president of the purchasing company, will head the new organization. Leading has also acquired Calvine Mill, Charlotte, N. C., print cloths, previously held by Textron Southern, Inc. Operations there will be continued under the name of Calvine Cotton Mills, Inc.

Melodie Mills, Inc., has been organized in Pawtucket, R. I., with a capital of 200 shares of stock, no par value, to manufacture rayon fabrics, etc. Edward J. Regan, Pawtucket, is the principal incorporator.

Goodyear Decatur (Ala.) Mills have plans under way for an addition to the boiler house at the mill, and equipment will be installed for increased capacity.

Joseph Bancroft & Sons Co., Rockford, Wilmington, Del., bleaching, dyeing and finishing, is planning a one-story warehouse addition, reported to cost over $60,000, with equipment.

H. E. and R. H. Brook have taken over a new Greensboro, Ga., building, and will occupy for a worsted yarn mill, with the initial installation of approximately 1000 spindles.

Booth Felt Co., Chicago, Ill., has let contract for a one-story mill, reported to cost over $75,000, with equipment. Main offices of the company are at Brooklyn, N. Y.

Oscar Heineman Corp., Chicago, Ill., yarn processing, has been acquired by Aetna Industrial Corp., New York, through the purchase of all outstanding capital stock, to be operated in the future without change. All silk spinning and throwing equipment formerly used by the company will be disposed of by the new owner. Donald G. Brewster has been elected president and general manager.

Mystic Mfg. Co., Inc., has been chartered with a capital of 1000 shares of stock, no par value, to operate a mill in Medford, Mass., for the manufacture of cotton and other fabrics. Carl J. Frenning is the president.

A. M. P. Mills, Inc., organized in New Bedford, Mass., with a capital of 500 shares of stock, no par value, will manufacture woolen and cotton fabrics. Kenneth L. Bradbury is president.

Hathaway Mfg. Co., New Bedford, Mass., has arranged for the purchase of Naushon Mills, Inc., New Bedford, cotton dress goods, etc. The new owner plans early installation of additional machinery for a large increased output.

Southwell Combing Co., recently organized with a capital of 28,000 shares of stock, no par value, plans the operation of a North Chelmsford, Mass., wool-combing plant. James Southwell is president.

Herward-Ranger, Inc., has been organized to take over and consolidate Herward Fabrics Co., Walpole, Mass., cotton and rayon fabric converter, and Ranger Co., Walpole, coated fabrics and other materials.

Fair Lawn (N. J.) Finishing Co., operating a finishing mill for rayon and nylon materials, has leased a one-story building in Fair Lawn, formerly part of Wright aircraft plant No. 3, and will occupy for warehouse service.

Hutmacher Braiding Co., Paterson, N. J., has leased a floor in a building formerly occupied by Wright Aeronautical Corp., and will use for expansion.

Tavernon Photo Engraving Co., Passaic, N. J., textile screen printing, has purchased a factory building in Paterson, N. J., heretofore occupied by Metalsalt Corp., and will use in the near future for expansion. It is understood that the present plant will be removed to a new location, and that equipment will be installed for increased capacity.

Try-Us Textile Processing Co., Brooklyn, N. Y., has leased a build-

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Saddles *will* become rutted, or grooved, like an old road, if used longer than intended.

When this happens, it's time to change, for grooved saddle bearings present an uneven surface to the neck of the roll, cause uneven pressure and therefore uneven yarn.

Inspect your saddles at regular intervals and replace them when they've "earned" retirement.

"It costs so little and saves so much."

SADDLE FOR SACO-LOWELL
LONG DRAFT SPINNING

Has device for oiling top rolls with very little attention. Saddle and stirrup removable as one unit. One of many different types that we furnish.

DIXON LUBRICATING SADDLE CO.
Established 1876
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Sole Manufacturers of
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- ★ PENETRATES THOROUGHLY
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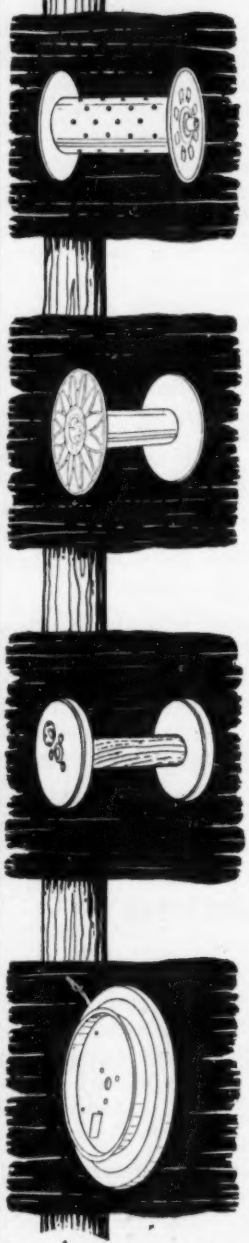

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Provide extreme strength and balance. Stainless steel construction eliminates problems of corrosion and staining. Designed for steaming and similar silk and rayon processing operations.

MAGNESIUM ALLOY WARP BEAMS

The best in quality construction regardless of price. Thirty-five years of specialization in spool manufacture result in warp beams with every quality for better, lower-cost production. Warp beams made of all-steel also available.

WOOD AND METAL JUTE BOBBINS

Resin bonded plywood head construction, metal bound with steel tire provides overall strength equalled only by toughest steel. Tire protects against chipping, burring, and warping. Available in a range of standard sizes.

LOOM BEAM HEADS

Balanced, relatively light-weight construction assures better operation and easier handling. Resin bonded plywood, metal bound with steel tire results in head of extreme strength.

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to improve performance
to lower your costs.....

WRITE FOR COMPLETE INFORMATION

Hubbard

Since 1912 Manufacturers of Spools and Related Products

ing now in course of erection in Secaucus, N. J., which will house a new plant. The present works will be removed to the new location, and additional equipment and facilities will be installed for increased output.

Bigelow-Sanford Carpet Co., Inc., has leased a six-story factory in Amsterdam, N. Y., for an expansion in operations.

French Campbell, Jr., receiver for Baker Mills, Inc., Gastonia, N. C., cotton yarns, is offering that property for sale. The property at Clover, S. C., will be sold also.

Cone Mills Corp. has been organized to take over and consolidate Proximity Mfg. Co., cotton goods, and Revolution Cotton Mills, flannelettes, etc., both of which are located at Greensboro, N. C.

Specialty Yarns Co., recently chartered with a capital of $100,000, will take over the Rutherfordton, N. C., yarn mill of M. O. Dickerson and D. A. Deviney, heretofore operated as a partnership. Both men will head the new organization. The plant specializes in combination hosiery yarns, cotton and rayon yarns.

Collins & Aikman Corp., Philadelphia, Pa., has let contract for a one-story addition to cost over $75,000.

Harris Lace Works, Inc., has been chartered with a capital of 100 shares of stock, no par value, to operate a mill in Coventry, R. I. Thomas J. Flynn, Providence, is one of the incorporators.

Rhode Island Fabrics Co., Pawtucket, R. I., has plans for a two-story addition, and has already let contract for the erection.

The plant of the Caroline Mills, Inc., at Carrollton, Ga., has been liquidated by the Comer Machinery Co., Atlanta, Ga.

Beaumont Mfg. Co. has installed 80 new looms in their No. 1 mill at Spartanburg, S. C.

Opp and Micolas Mills, Opp, Ala., have installed Barber-Colman high speed spooling and warping machinery. Installation of 400 X-2 Model looms has also been completed, and new pickers, cards, drawing, slubbing and spinning equipment will be added in the near future.

A change in name from Coosa Valley Mills, Inc., Talladega, Ala., to Highland City Mills has been announced. Operations will begin with the manufacturing of worsted yarns for both the knitting and weaving trades, handling a range of worsted counts from 8s to 36s, both single and ply.

Mooresville (N. C.) Mills recently presented 892 employees with service pins, totalling 10,000 years of continuous employment.

The construction of a two-story addition costing in excess of one million dollars is planned at the Fort Mill (S. C.) plant No. 1 of the Springs Cotton Mills, and will house combers and spinning and weaving machinery for the manufacture of percale sheets.

The Hamrick Mills, Inc., and the Limestone Mills, Inc., both in Gaffney, S. C., have been acquired by M. Lowenstein & Sons, Inc. Because of the lack of availability of low-end print cloths in the open market, the purchase of additional looms was also necessary.

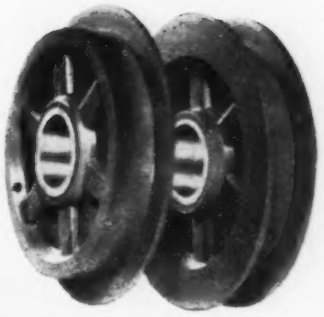
Alexander Smith & Sons Carpet Co., Yonkers, N. Y., has tentative plans for a branch warehouse at Atlanta, Ga., which will cost over $130,000, it is reported.

Kay Woolen Mills, Inc., recently organized with a capital of 1000 shares of stock, no par value, has plans for the operation of a mill in Charlton, Mass., for the manufacture of woolen goods. Richard C. Rotherham is president.

Bemis Bros. Bag Co., St. Louis, Mo., has purchased a tract of land at Hopkins, Minn., to be used as the site for a new converting plant. It will comprise a main building and several auxiliary structures, with equipment and facilities for a large capacity.

Philips Textile, Inc., West New York, N. J., machine laces and embroideries, has completed the installation of a new mill in an adjoining building and will place in full production immediately. The plant is said to represent an investment of about $250,000, providing for a large increased capacity.

F. C. Huyck & Sons, woolen goods, woven mechanical felts, etc., has approved plans for an addition to the Kenwood Mills, Rensselaer, N. Y., to be known as Building No. 42. Contract has been let for a structural steel framing and work is scheduled to begin in the near future.



You'll find no dusting on fabric with RunRite Plastic Sheaves because RunRites are automatically spaced to prevent one sheave rubbing another. Their smooth, perfectly balanced strap surface guarantees longer life for harness straps. Once installed, RunRites need no further attention for a long life of perfect service.

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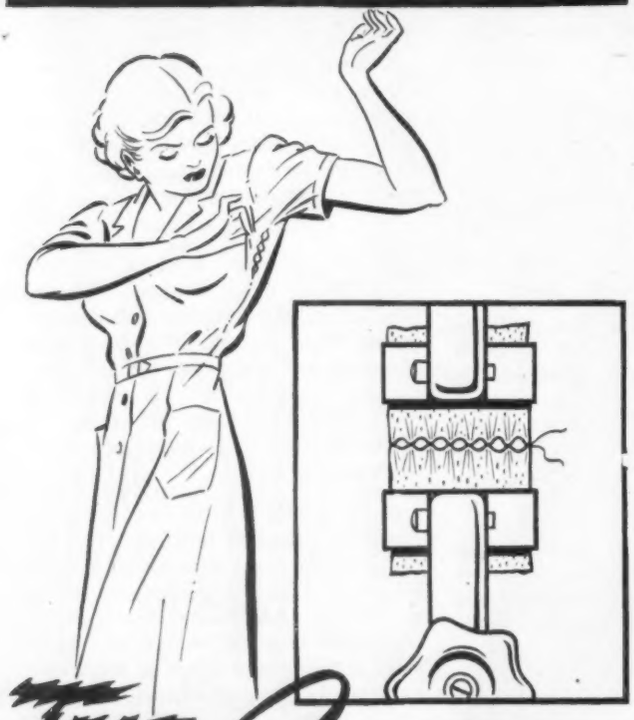


TEAR Resistance

*Scott Tester Model J tests fabrics for tensile strength up to 500 lbs. The same Tester is convertible for Burst Test by Attachment W. World-standard tests, "picturized" graph results.

"Adequate Testing Always Pays"

*Registered Trademark

SCOTT TESTERS, INC.

60 BLACKSTONE ST. PROVIDENCE, R. I.

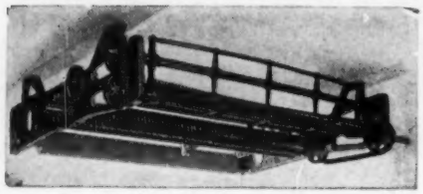
Southern Representative

JOHN KLINCK

304 W. Forest Avenue North Augusta, S. Car.

Standard of the World

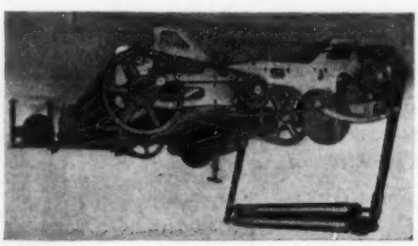
New



A M W SCUTCHER

LATEST DEVELOPMENTS IN SCUTCHER DESIGN

Steamline — Nonferrous castings thruout — Oversize shafts — Completely Ballbearing equipped — Designed to operate at any speed on all fabrics. Furnished with brass or rubber delivery roll or with rubber draw rolls and folding device.



PLAIN SCUTCHER WITH FOLDING DEVICE

OTHER NEWLY DESIGNED MACHINERY

Adjustable Spiral Openers	Open Soapers
Back Filling	2- and 3-Roll Padders
Carbonizing	2- and 3-Roll Quetsches
Crabbing	Squeeze Rolls
Cloth Perches	Definized Processing Equipment
Dampening	and other machinery

Consult us if delivery is important

ARLINGTON MACHINE WORKS

INCORPORATED

ARLINGTON 74 MASSACHUSETTS

SOLE MANUFACTURERS

SUPPLIERS' NEWS

WHAT THEY ARE DOING

Alban H. Seitz has been made Philadelphia branch manager of American Aniline Products, Inc., New York. Mr. Seitz previously has been

a Philadelphia representative for the company. In his new position he will supervise sales and technical work in the Pennsylvania, Maryland and south New Jersey territories.

Mealpack Corporation of America, New York, N. Y., has announced the appointment of Reuben H. Graham, Jr., former assistant manager of the S & W Cafeteria, Charlotte, N. C., as regional representative for southern North Carolina and the state of South Carolina. He is in charge of all sales and service for these areas and is temporarily located at Charlotte.

The addition of a new technical sales service representative, Rufus F. Wint, formerly engaged in research and technical service work at the Experiment Station in Wilmington, Del., to the Hercules Powder Company's Cellulose Products Department branch office in Detroit, Mich., has been made known.

Announcement has been made that the Henderson Foundry and Machine Company, Hampton, Ga., henceforth will operate under the name of Southern States Equipment Corporation.

American Key Products, Inc., New York City, has recently formed a specialties department to handle the sale of dextrines, glues, gelatins, natural gums, Casein and related products. John A. Lowander, a former vice-president of Stein, Hall & Co., Inc., New York, will manage the new activity.

S. P. Young has been appointed as technical field representative for the American Cyanamid Company's Textile Resin Department, and will work under the direction of R. W. Angstadt, southern sales manager in charge of the company's Charlotte, N. C., office. Mr. Young has been associated with ACC's Textile Resin Application Laboratories at Bound Brook, N. J.

Frederick R. Brown, who has directed the sale of Du Pont's viscose process rayon yarns and associated products for the last 19 years, has retired. He will be succeeded by Philip F. Brown, no relation, who has been assistant director of sales since 1935.

Mr. P. F. Brown will be succeeded by V. Ward Smith, former district sales manager of the rayon division at Providence, R. I.

The Columbia Chemical Division of Pittsburgh Plate Glass Co., Pittsburgh, Pa., has named William L. Platt, formerly with the chemical division in Boston district, as sales manager.

Tolhurst Centrifugals Division of American Machine and Metals, Inc., East Moline, Ill., has announced the appointment of Frederic C. Weicker, former eastern district sales manager, as sales manager.

John Draper Gannett, son of the late Thomas B. Gannett, who was a director of Draper Corp., has been

Mr. Gannett

elected advertising manager of Draper Corp., Hopedale, Mass., succeeding the late S. Walter Batty.

August Merz has completed 50 years of service as of last October with the American Cyanamid Company, Bound Brook, N. J., in his capacity as research adviser and consultant.

The HEART of the Cotton Belt is the Hub of Linter Service by RAYCO

● Our expanded Cotton Linter Division now has its headquarters at Memphis, Tennessee. This central location places our licensed fiber specialists in constant close contact with the mills at the source of procurement. We also maintain offices at other key cotton centers—Dallas, Atlanta and Charlotte.

The RAILWAY SUPPLY & MFG. CO. and Affiliates

Specialists in Grading, Marketing and Processing Cotton and Synthetic Fibers

General Offices:
CINCINNATI, OHIO

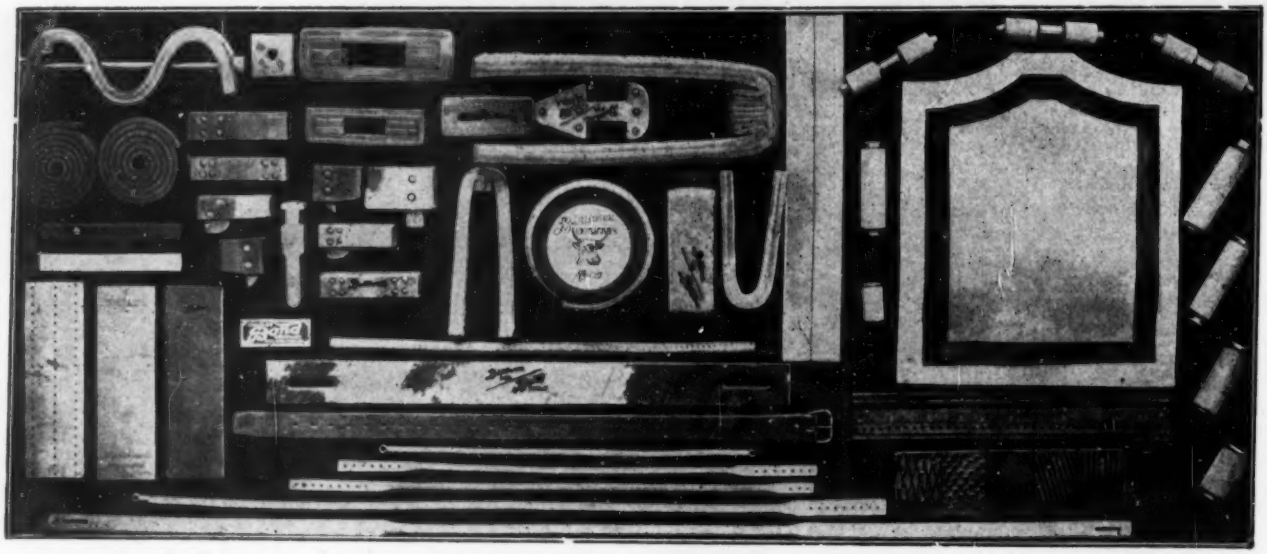
Plants and Sales Offices:

Cincinnati, Ohio ● Franklin, Ohio ● Atlanta, Ga. ● Charlotte, N. C. ● Covington, Tenn. ● Greensboro, N. C. ● Memphis, Tenn. ● New York, N. Y. ● Chicago, Ill. ● Detroit, Mich.

RAYCO
COTTON LINTERS

ORIGINAL AND GENUINE
Bondaron
REG. U. S. PAT. OFF.

TEXTILE LEATHERS



PERFORMANCE—*Not* Cost—Makes Bondaron Leathers ECONOMICAL

Buying by comparison is a safe method, but too often the comparison is based on first cost rather than by *results*. Economic value can only be ascertained by actual use, when the record of performance provides enlightening comparisons.

Men, methods and machines differ. That is why Charles Bond Company is always willing to submit BONDARON Textile Leathers to intensive, practical demonstration under any mill conditions where textile leathers are used.

Test these leathers under your own working conditions. We will ship an initial order and guarantee satisfaction.

CHARLES Bond COMPANY
617-623 ARCH STREET PHILADELPHIA, PA.
Manufacturers of Textile Leathers for Nearly Half a Century

The Textile Industry . . .

has had the

Greatest Increase in LABOR COSTS

of any industry

It is now *imperative* that

both *labor* and *equipment* be fully

utilized

Doing this is our job.
How well we are doing our job can be found by asking our Clients old and new.
A list will be sent on request.

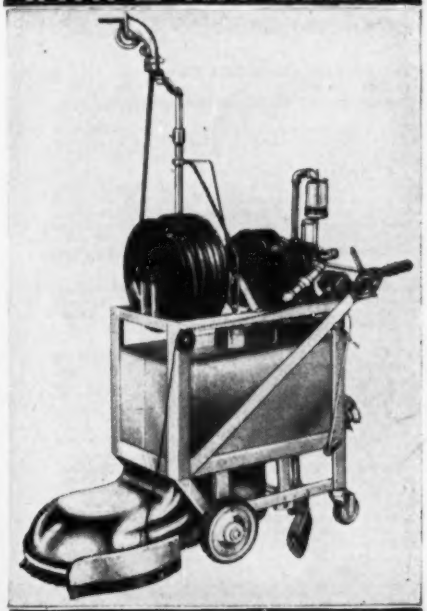
Our work covers millions of spindles and years of experience.

AMERICAN ASSOCIATED CONSULTANTS, Inc.

250 PARK AVENUE NEW YORK 17, N. Y.

DOUGLAS S. KEOGH, President JOHN J. SKELLY, Vice President-Gen. Mgr.
H. B. CRAFT, Vice President in Charge of Southern Operations - - - - - 30 Camden Road, Atlanta, Ga.
PAUL O. MERRILL, Vice President-Chief Engineer

CLEAN FLOORS
in 1/2 the Time with 1/2 the Labor



The LAWLOR 20-D
is 2 Machines in 1
- Scrubs Floors Evenly
- Removes Dirty Water

One operator works the easy controls. Clean water is fed from one tank upon the soaped floor which is then scrubbed with a 19" diameter revolving brush. Behind it a rubber squeegee mops up the dirty water which is vacuum pumped into a second tank.

The Lawlor 20-D is just the machine for large floor areas. Only 22" wide, it can be used in congested places, around machines, counters and desks. Available for either AC or DC current.

Write for new catalog giving description of the Lawlor 20-D and complete line.

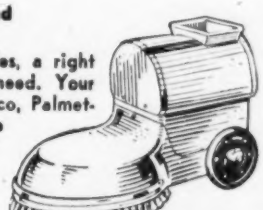
MOP WRINGERS

All steel with perforated rolls. Easy foot-lever operation. Made for one or two pails.

MOPPING TANKS

Heavy galvanized steel with welded seams. Two compartments, each with shut-off. Foot pressure wringers. 30 or 60 gallon capacity.

SCRUBBERS and POLISHERS



12 different styles, a right size for every need. Your choice of Tampico, Palmetto or Steel Wire brushes.

Sold and Serviced by local Janitor Supply Houses

S. C. LAWLOR CO.

Makers of Quality Equipment for 50 Years

121 N. Aberdeen St., Chicago 7, Ill.

Saco-Lowell Shops have elected as vice-presidents Eugene C. Gwaltney, director of research and development, and Walter W. Gayle, who has been in charge of the company's sales in the South.

L. N. Harrison, southeastern district manager of the Votator division of The Girdler Corp., Louisville, Ky., has moved his headquarters from Charlotte, N. C., to Atlanta ,Ga.

The industrial sales division of Swan-Finch Oil Corp., New York, has announced the appointment of Anthony J. Zino, Jr., as assistant sales

manager for the home office. Prior to his present connection, Mr. Zino was eastern manager of the lubrication department of E. F. Houghton & Co.

William B. DePass, sales manager, has been elected divisional vice-presi-

dent of the Interchemical Corporation, Textile Colors division, Fair Lawn, N. J.

The William Powell Co., Cincinnati, Ohio, valve manufacturers, have announced that S. H. Blackwood, formerly with Mid West Piping & Supply Co., Inc., is now associated with the former company's New York office.

Riggs & Lombard, Inc., Lowell, Mass., has announced the appointment of Charles H. Dunker as West Coast representative.

a new day dawns

for textile operators *who use Selig's*

HUMIDIFYING FLUID

A small quantity in your humidifying system system at regular intervals improves humidity, aids wetting-in action and overcomes heavy unpleasant ordors.

SELIG'S HUMIDIFYING FLUID imparts the invigorating scent of Southern Pine to the atmosphere. Economical to use—will not clog the humidifier heads—miscible in all proportions of water.

Its positive effectiveness can only be appreciated by actual use. Write today for a generous sample of SELIG'S HUMIDIFYING FLUID.

The SELIG COMPANY
Manufacturing Chemist since 1896
GENERAL OFFICES and FACTORY
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HELPFUL BOOKLETS FREE

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This service is restricted to those engaged in operation and management of textile industries

GENERAL ECONOMIC, MANAGEMENT . . .

5. FACTORING AND FINANCING — Illustrated booklet on how factoring works, cost and credit information.—TEXTILE BANKING COMPANY, New York, N. Y.

6. SERVING THE TEXTILE INDUSTRY—Illustrated booklet on services of textile and industrial consultants in assisting mill management.—WERNER TEXTILE CONSULTANTS, INC., New York 17, N. Y.

7. RAYON TELLS ITS STORY TO THE PUBLIC—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, New York 1, N. Y.

8. WHAT DOES A FACTOR DO — Illustrated booklet with case histories.—MEINHARD GREEFF & CO., INC., New York 10, N. Y.

9. TESTING IN MODERN INDUSTRY—This booklet includes many useful tables, conversion factors, equivalent yarn sizes and other information helpful in textile mills. Also describes specialized testing service. Available free to mill men on request.—UNITED STATES TESTING CO., Hoboken, New Jersey.

PLANT AND PLANT MAINTENANCE . . .

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

108. RIHCO TYPE B HUMIDIFIER HEADS—Bulletin describes new atomizers with construction lessening air consumption. — ALDRICH MACHINE WORKS, Greenwood, S. C.

115. ATOMIZER HUMIDIFIERS—Recent issue of "Parks' Parables" on Turbomatic self-cleaning humidifiers, and automatic regulation. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

129. BAHNSON CENTRIFUGAL HUMIDIFIER—Bulletin 327 describes this completely self-contained industrial humidifier which requires only water feed and drain and electrical connection to install.—THE BAHNSON COMPANY, Winston-Salem, N. C.

132. ROOF, WALL AND FLOOR INSULATION—Illustrated booklets on uses of PC Foamglas Insulation and describing its waterproof, fireproof and permanent insulating properties. — PITTSBURGH CORNING CORP., Pittsburgh 22, Pa.

135. SAFETY COLOR CODE—How six standard colors can be used to reduce hazards, cut down accidents.—E. I. DU PONT DE NEMOURS & CO., INC., Finishes Division, C44, Wilmington, Dela.

138. MAGNESIUM IN THE TEXTILE INDUSTRY—Illustrated booklet on properties of magnesium for spinning, twisting, winding, knitting machines, looms, beams, spools, bobbins.—ALUMINUM CO. OF AMERICA, Pittsburgh, Pa.

151. INDUSTRIAL BRUSHES—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS SONS, INC., Cedar Grove, N. J.

152. AIR CONDITIONING FOR THE TEXTILE INDUSTRY—40-page illustrated book covering air conditioning from humidity control to complete refrigerated conditioning with installations, charts, covering ABC's of cooling textile mills.—CARRIER CORP., Syracuse, N. Y.

155. GLASS BLOCKS—28-p. booklet with illustrations, engineering data, patterns PC glass blocks. —PITTSBURGH CORNING CORP., Pittsburgh 22, Pennsylvania.

156. ALL-OUT DRY CHEMICAL EXTINGUISHER—Describes this new chemical extinguisher which contains a special powder injected by gas pressure which is an effective means of controlling surface fires in textile fibers.—ALL-OUT MANUFACTURING CORP., New York 16, N. Y.

159. BAHNSON HUMIDUCT SYSTEM — Bulletin 330 describes this unit system of air conditioning for humidifying, cooling, heating, ventilating, filtering, and dehumidifying in any desired combination. —THE BAHNSON CO., Winston-Salem, N. C.

160. INSTALLING MACHINERY WITHOUT LAG SCREWS OR BOLTS — Booklet describing use of UNISORB pads for anchoring all types of machinery. —THE FELTERS COMPANY, Boston, Mass.

161. ALL-OUT'S EXTINGUISHING ACTION—Describes fire extinguishing action that is such that operators can approach fire without hindrance by extreme radiant heat. The extinguishing material remains on heated surfaces preventing redash.—ALL-OUT MANUFACTURING CORP., New York 16, N. Y.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs, as well as preserving textile mill floors.—G. H. TENNANT COMPANY, Minneapolis 11, Minn.

163. LAWLOR FLOOR MACHINES — Illustrated pamphlet containing specifications and describing All-Purpose Floor Machines.—THE SELIG COMPANY, Atlanta, Ga.

165. SELF-LOCKING NUTS — Illustrated folder lists complete dimensions of standard hex nuts available in sizes from No. 4 machine screw to 1¼" S.A.E. and U.S.S. and describes the outstanding features of ESNA Elastic Stop Nuts.—ELASTIC STOP NUT CORP. OF AMERICA, Union, New Jersey.

166. OAKITE PLANT MAINTENANCE DIGEST—A 16-page manual describing materials and methods for handling 54 recurring maintenance cleaning and related tasks in factories and mills.—OAKITE PRODUCTS, INC., New York 6, N. Y.

167. DU PONT COLOR CONDITIONING FOR INDUSTRY—Booklet, color used to reduce maintenance costs, increase production, curtail fatigue, improve employee morale. — E. I. DU PONT DE NEMOURS & CO. (Inc.), FINISHES DIVISION, Wilmington, Delaware.

168. DIAMOND VULCANIZED FIBRE HOLLOW WARE—Catalog HW-11 describing and illustrating boxes, trucks, cans, barrels, baskets, and trays made of Diamond Fibre for use in textile mills.—CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

170. WHY IT PAYS TO ANCHOR YOUR MACHINE WITH UNISORB—Illustrated booklet discussing control of vibration and noise and how UNISORB reduces maintenance costs.—THE FELTERS CO., Boston, Mass.

171. SULLIVAN T8-WG9—Illustrated bulletin describing the Sullivan line of heavy duty air compressors.—SULLIVAN DIVISION JOY MFG. CO., Pittsburgh, Pa.

172. VENTILATING FANS—Bulletin 3339 gives facts on Buffalo Ventilating Fans. — BUFFALO FORGE CO., Buffalo, N. Y.

173. HUMIDITY—This booklet includes data on Walton Humidifiers and discusses problems of handling new fibers and other changed conditions in mills.—WALTON LABORATORIES, INC., Irvington 11, N. J.

175. MOISTURE—Illustrated Folder, "The Yarn Conditioning System for the Textile Industry of Tomorrow."—KEARNY MFG. CO., INC., Kearny, N. J.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

210. GOODYEAR MECHANICAL RUBBER GOODS CATALOG—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill.—GOODYEAR TIRE & RUBBER CO., Akron, Ohio.

211. JOHNSON BRONZE CATALOGUE NO. 460—Shows over 850 sizes of cast bronze bushings, 350 sizes of UNIVERSAL Bronze Bars and over 250 Electric Motor Bearings. — JOHNSON BRONZE COMPANY, New Castle, Penna.

212. GATES TEXTILE ACCESSORIES — Showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions.—THE GATES RUBBER COMPANY, Denver, Colo.

216. LEATHER BOOKLET NO. 202 — Attractive booklet illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Solid Bound Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

218. BALL BEARINGS ON TEXTILE MACHINERY—Catalog 9 gives advantages of ball bearings, describes types, illustrates each type of textile machinery.—THE FAFNIR BEARING CO., New Britain, Connecticut.

225. BRONZE BEARINGS—64 page catalog of standard sizes of textile and industrial bearings, graphited oil-less bearings, bronze bars, babbitt metals.—THE BUNTING BRASS AND BRONZE CO., Toledo, Ohio.

231. V-BELT ENGINEERING DATA BOOK—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. — MANHATTAN RUBBER MANUFACTURING DIV. of Raybestos-Manhattan, Inc., Passaic, N. J.

235. JOHNSON LEDALOYL BEARING BRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

237. FAFNIR BALL BEARINGS FOR THE TEXTILE INDUSTRY—Outlining the application and advantages of ball bearings on textile machinery.—FAFNIR BEARING CO., New Britain, Conn.

244. TEXACO SPINDURA OILS—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

246. CUTTING OPERATING COSTS—Nationwide Illustrated Survey showing how American textile mills cut operating costs with Multiple V-Belt Drives.—GATES RUBBER CO., Denver, Colorado.

258. VARIABLE SPEED CONTROL UNITS—Complete information on Reeves Variable Speed, including Transmission, Vari-speed motor pulley and Motordrive. Includes examples, illustrations, diagrams, engineering tables. Catalog G-450A.—REEVES PULLEY COMPANY, Columbus, Ind.

263. NEEDLE ROLLER BEARINGS—Catalog Engineering and Application Data Edition 32 contains full data on selection of proper Needle Roller Bearings and outlines uses of such in various commodities including textile uses, types, installations, lubrication, etc. — TORRINGTON COMPANY, Torrington, Conn.

264. NEW DEPARTURE SHOP MANUAL—Illustrated catalog showing ball bearing mounting and maintenance practice. Covers storage, cleaning, lubrication, types of bearings.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

265. INTERCHANGEABLE BALL BEARINGS FOR REPLACEMENT—Charts showing numbers used by manufacturers to identify bearing characteristics, also information on specifications.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

268. THE LUBRIPLATE SERVICE HANDBOOK—Attractive 28-page illustrated book containing valuable information concerning the important subject of lubrication and setting forth complete recommendations of LUBRIPLATE lubricants for application to all types of machinery.—FISKE BROTHERS REFINING CO., Newark 5, New Jersey.

269. LUBRICATION AND MAINTENANCE OF BALL AND ROLLER BEARINGS—Illustrated bulletin describing efficiencies and economies of NON-FLUID OIL for all types ball and roller bearings.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

270. MANHATTAN FLEXLASTICS — Illustrated booklet describing how flexlastics are used in the Manhattan and Condor line of belting and mechanical rubber goods.—MANHATTAN RUBBER DIVISION, Passaic, N. J.

271. CARDING, SPINNING AND WEAVING LUBRICATION—Informative bulletins describing advantages of NON-FLUID OIL over ordinary lubricants for the lubrication of carding, spinning and weaving machinery.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

272. HOUGHTON LUBRICATION CHART — Attractive chart listing lubrication recommendations for all mill departments and various textile machines.—E. F. HOUGHTON AND CO., Philadelphia, Penna.

274. MOCCASIN OIL DISTRIBUTING CARD CYLINDER BEARINGS—Illustrated folder No. 2-47 describing a successful method for lubricating troublesome card cylinder bearings. Diagram shows suggested piping layout.—MOCCASIN BUSHING COMPANY, Chattanooga, Tenn.

275. GEM OILERS—Leaflet showing construction features, capacities, etc., of flexible spout welded steel oilers.—GEM MFG. CO., Pittsburgh, Pa.

276. SPEED CONTROL—Bulletin 20B6051G describes Texrope variable speed drives. — ALLIS-CHALMERS MFG. CO., Milwaukee 2, Wis.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

307. THERMOMETER AND PRESSURE GAUGES—Catalog 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industry.—BROWN INSTRUMENT COMPANY, Philadelphia, Pennsylvania.

311. PIPING POINTERS—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips.—CRANE CO., Chicago, Ill.

314. MOISTURE CONTENT CONTROL — Bulletin F-1705-1 giving details of features and benefits of moisture equipment control for slashers and textile application. — BARBER-COLMAN CO., Rockford, Ill.

315. CONTROL INSTRUMENTS FOR TEXTILE PROCESSES—32-page illustrated booklet describing controls for such processes as slashing, dyeing, bleaching, kier boiling, drying, air-conditioning, etc. —BROWN INSTRUMENT CO., Philadelphia, Penna.

316. HYDRAULIC POWER UNITS—Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operation of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

317. POWELL VALVES FOR CORROSION RESISTANCE—20-Page booklet which briefly describes and illustrates the very complete line of Powell Valves available in a large variety of metals and alloys to handle all corrosive fluids—to help solve flow control porblems where corrosion may be encountered.—THE WILLIAM POWELL CO., Cincinnati 22, Ohio.

319. KMC TEXTILE PSYCHROMETER — Leaflet No. 588 describing a spot check instrument for determining quickly the moisture contents in textiles and relative humidity.—KEARNY MFG. CO., Kearny, N. J.—Greenville, S. C.

320. OAKITE POWER PLANT DIGEST—A 20-page manual describing materials and methods for

handling Tl cleaning, degreasing, descaling, derusting, paintstripping and related operations encountered in power plants.—OAKITE PRODUCTS, INC., New York 6, N. Y.

321. **RED RAY BURNERS**—Bulletin describing use of Red-Ray burners in preheating and partial drying to increase capacity of frame.—RED RAY MFG. CO., New York, N. Y.

322. **DIAMOND SWING JOINTS**—4-page illustrated folder describing the Diamond line of ball, swing and revolving joints for use on any system handling air, gas, steam, oil, or any fluid where reflexible connection is needed. — DIAMOND METAL PRODUCTS CO., St. Louis, Mo.

CARDING, SPINNING, WINDING, ETC. . . .

401. **LUMNUS DUSTLESS, STEEL, BLENDING FEEDER**—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. **AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS**—24 page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning twisting, winding and warping machines. Also for cleaning monitors and card room ceilings.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

405. **YARN CONDITIONING AND TWIST-SET TING**—Tensol booklet on new conditioning agent for textile yarns.—BURKART-SCHIER CHEMICAL COMPANY, Chattanooga, Tenn.

409. **HOTO CONER**—Bulletin describing Universal rotary traverse winder, known as the Hoto Coner, producing open wound cones for knitting and warping; parallel tubes for package dyeing, twisting, and sale yarn.—UNIVERSAL WINDING CO., Providence, Rhode Island.

410. **FIBRE CONDITIONING WITH TEXSPRAY COMPOUND**—30 page booklet on treating of cotton or cut staple fibers with Tex-pray Compound including the advantages and development of fiber conditioning.—THE TEXAS CO., New York City.

413. **SONOCO PRODUCTS**—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork rots, roving cans, spools, rolls, etc.—SONOCO PRODUCTS CO., Hartsville, S. C.

416. **THE BRIEF SAGA OF THE RING TRAVELER**—An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of the ring traveler, the development of the spindle, and the invention of Rabbth's Bolster type spindle are covered.—NATIONAL RING TRAVELER CO., Pawtucket, R. I.

419. **TEXTILE APRONS**—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

421. **AUTOMATIC WINDERS** — Folder describing latest winding equipment with full automatic operation. Only one automatic head for up to 100 spindles.—ABBOTT MACHINE CO., Wilton, N. H.

422. **MODERN TEXTILE ROLL COVERINGS**—Illustrated booklet on roll covering problems with chart on correct grades, also data on Acotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division, TEXTILE PRODUCTS SEC., Lancaster, Pa.

423. **TEXTILE SHEET METAL PRODUCTS**—Folder on cylinders, card screens, licker-in screens, repair work. — JENKINS METAL SHOPS, INC., Gastonia, North Carolina.

426. **PNEUMATIC ROLL PICKER**—Attractive bulletin descriptive of the "Amoskeag" roll picker that removes fly and lint from the top rolls and other drafting elements in spinning and roving frames.—M-B PRODUCTS, Detroit 26, Michigan.

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448. **NUMO AUTOMATIC SPINNING CONTROL**—Illustrated literature describing the new automatic spinning control that gives uniform size uniform tail and many other benefits.—NUMO MACHINE & ENGINEERING CO., Charlotte, N. C.

442. **FOSTER BULLETIN A-95** — Describes the modern Foster Model 102 winder that eliminates ribbon wind.—FOSTER MACHINE CO., Westfield, Mass.

WEAVING, SLASHING . . .

502. **TEXTILE COUNTERS**—Catalog T37 describing pick counters for looms, hank counters for spinning, package counters for cord looms, etc.—VENDEL-ROOT, INC., Hartford, Conn.

505. **NOTES ON COTTON WARP SIZING**—A 45 page handbook giving valuable data on the purposes and properties of various sizing products, their uses and preparation. Also valuable information on the operation of sizing equipment. Will help save many sizing problems.—THE HART PRODUCTS Corp., New York City

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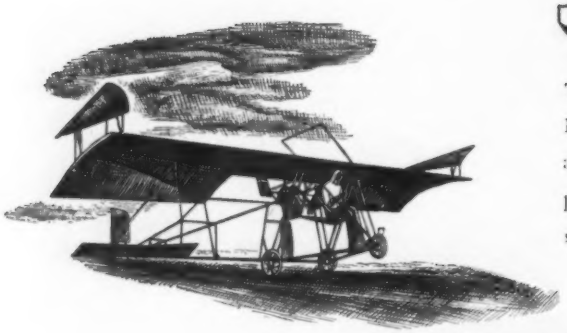

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THE 1ST **KNITTING MACHINE** to produce an INTERLOCK FABRIC, a special type of rib fabric distinguished for superior softness, warmth and strength, was the S&W Interlock Machine, developed in 1908.

THE 1ST **AMERICAN-MADE KNITTING MACHINE** to produce LINKS-AND-LINKS patterning in hosiery was the Komet Links-and-Links Machine produced by Scott & Williams in 1939.

THE 1ST **KNITTING MACHINE** to produce COMPLETE RIBBED TOP half hose and slack sox with single and multiple wrap patterning plus color-in-color effects was the S&W HH-PW Color-in-Color Machine, developed in 1909.

THE 1ST **KNITTING MACHINE** to produce sheer, perfectly fitting SEAM-FREE nylon women's hosiery was the S&W DANCING TWINS Seam-Free Nylon Machine, introduced by Scott & Williams in 1946.

ALL OF THESE MACHINES made knitting history. They are contributing to the advancement of knitting efficiency and are constantly expanding the market for circular knit merchandise. They are examples of Scott & Williams' leadership in the circular knitting field.

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Snag Tester for Nylon Hosiery

By J. E. SMITH and T. D. JOHNSON, JR.*
E. I. Du Pont de Nemours & Co., Inc.

Simple device utilizes a strip of sandpaper as the snagging surface. Description of tester and method for evaluating snag resistance of nylon hosiery are presented here.

ONE of the most important physical properties to be considered in judging the serviceability of sheer nylon stockings is their snag resistance. A high degree of snag resistance is very important in protecting stockings during handling through the various inspection and packaging steps in a hosiery mill.

Snag resistance is also of great importance in obtaining improved wearing properties since this factor is closely related to the incidence of runs in hose. In considering the cause of failure during wear, as determined from extensive wear tests, it was found that more runs are caused by snags than any other single factor.

A new, simple tester and method for evaluating the snag resistance of nylon hosiery, provide results which correlate qualitatively with the performance of nylon hosiery in service tests. The method differentiates sharply between nylon stockings having excellent, fair, and poor snag resistance. Also, use of the test method expedited the development of a selected resin-type finish for nylon hosiery which has been shown by wear tests to improve the serviceability of nylon stockings.

Description of Tester

The snag tester utilizes a strip of sandpaper as the snagging surface. Sandpaper was chosen because it provides a reproducible, rough surface. Experience has shown that fairly uniform results are obtained from one sheet of sandpaper to another, provided the paper is of the same grade from the same manufacturer.

The snag tester consists of the following parts:

(1) A wooden base.

(2) A slotted, adjustable wooden board resting on the base and held in position with wing nuts fastened onto screws connected to the base and extending up through slots. Attached to the front of the board is a ½" diameter dowel stick, cut in half to supply a rounded surface. Projecting above the board are two flat-head screws.

(3) A wooden bevel board with a sloping front which is clamped to the adjustable board and which serves to hold the sandpaper in position and to provide a standardized angle to guide the passage of the test stocking over the sandpaper.

(4) Two flat wooden blocks held together at one end with a metal hinge and at the other end with a metal catch.

(5) 3/0 sandpaper.

The base of the snag tester is clamped to a table so that its longer dimension is parallel and close to the table edge. A strip of sandpaper is attached face down on the front edge of the base with thumb tacks. The adjustable slotted board is then placed on the

View of the new snag tester.

Photo courtesy, E. I. Du Pont de Nemours & Co., Inc.

*Abstract of paper presented at the 26th annual convention of the American Association of Textile Chemists and Colorists in Chicago.

base so that two bolts on the base project through the back end of the slots, and is secured with the wing nuts. The sandpaper is drawn over the rounded leading edge of the adjustable board and held tightly while the bevel board is bolted into position, thus securing the sandpaper.

It is possible to make from 12 to 18 tests on a single strip of paper by changing the surface exposed after each test. This is accomplished by loosening the bevel board and adjustable board, then sliding the adjustable board backward about ½" after each test. The bevel board is, of course, fastened after each movement to hold the sandpaper tightly.

Test Procedure

The procedure for carrying out the snag test is as follows:

(1) An area on the boot about ½" below the shadow welt is marked on the hose by drawing two lines 2" apart and parallel to the shadow welt.

(2) The welt is clamped smooth and flat between the two wooden blocks. The fashion seam of a full-fashioned hose forms one edge.

(3) The stocking is placed on the exposed curved edge of the sandpaper at the mark closest to the toe and with the blocks hanging toward the floor.

(4) The stocking is given a moderately rapid, steady horizontal pull back from the table edge over the bevel board so that the marked-off portion of the hose is drawn vertically over the sandpaper.

(5) The wing nuts holding the bevel board and the adjustable board are loosened and the adjustable board is then moved backward. The sandpaper is drawn tightly over the edge, thus exposing a fresh surface of the sandpaper for the next test. All wing nuts are again tightened to hold the sandpaper firmly in position.

(6) The snagging action is repeated on the second side of the stocking. It is imperative that a new surface of sandpaper be used for each side of the stocking.

All marks on both sides between the two lines are counted without making any effort to grade snags by types. Some of the marks which are counted in such a procedure will undoubtedly be abrasion marks, rather than distorted loops.

To eliminate the abrasion marks and slight snags, the stocking is given a light hand wash at about 100-110°F. in a mild soap solution, followed by a rinse in warm water, after which the stocking is boarded on a heated metal hosiery form and the number of marks present are recounted. The marks remaining after the hand wash are permanently distorted loops representing snags which would be likely to cause trouble during wear. It is convenient to use a black painted, wooden hosiery form to support the stocking while counting snags.

The method described differentiates sharply between nylon stockings having excellent, fair, and poor snag resistance. Untreated nylon hose constructed with either 30 or 40 denier yarn in the boot usually develop from 6 to 16 snags per sq. in., against 3/0 sandpaper. A stocking showing no more than 0.5 snag per sq. in. is considered to have excellent snag resistance.

This tester was devised and used in selecting finishing materials to be used in the final finish after dyeing to increase resistance to snagging during inspection, packaging, merchandizing, and during wear. Practical experience again has shown that stockings which are finished to obtain a high degree of snag resistance, as judged by the sandpaper method, are more resistant to snagging.

The correlation of the sandpaper method for evaluating the snag resistance of nylon hosiery with practical performance in selecting satisfactory knitting sizes and final finishes demonstrates the basic soundness of this method. Nylon has such superior abrasion resistance inherently that the property in nylon hosiery which is in greatest need of improvement from a finish is snag resistance; and the best serviceability in nylon hosiery will be accomplished by using finishes which increase rather than decrease the coefficient of friction of the nylon yarn.

AN EYE ON THE KNITTING MILLS

Shamrock Knitting Mill, Marietta, Ga., women's and misses' socks and other knit goods, has plans for an expansion in the mill, and additional equipment for considerably increased capacity will be installed.

Everlastik, Inc., Chelsea, Mass., woven elastic and non-elastic fabrics, heretofore owned by Burlington Mills Corp., has been acquired by new interests. David Casty and Benjamin Faneuil, officials of Novelty Bias Binding Co., Boston, Mass., associated with Martin Lifland, will head the acquired company. Operations will continue without change.

Walton Knitting Mills, Inc., organized with a capital of $250,000, plans operation of a mill in Hickory, N. C., for the manufacture of hosiery. E. W. Walton, Sr. and Jr., are to head the concern.

Jaynson Knitting Mills, Inc., York Pa., has let general contract for a one-story mill unit, reported to cost over $100,000, with equipment.

Maryon Hosiery Mill, Carrollton, Ga., children's hosiery and anklets, has work under way on the installation of additional equipment and will develop increased capacity soon.

Artcraft Hosiery Co., Philadelphia, Pa., has decided not to sell its mill at Meridian, Miss., and the property will be held for further operations.

Ramseur (N. C.) Inner-Lock Knitting Co. has been organized with a capital of $100,000 to operate a mill for the production of special knit fabrics. Samuel Rankin, Ramseur, and R. W. Lowe, Chester, Va., are the principal incorporators.

Davisville (Pa.) Hosiery Mill has asked bids for the erection of a one-story addition, reported to cost over $65,000, with equipment.

Gibbs Underwear Co., Philadelphia, Pa., has let contract for a five-story addition to cost over $100,000, with equipment.

Albert Lucier Co., Belmont, N. H., women's seamless hosiery, has been purchased by Cormier Hosiery Mills, Inc., Laconia, N. H. The purchase includes the building, machinery and other facilities, and the new owner will continue the plant in service as a branch mill.

Superior Knitting Mills, knit underwear, has leased the third floor of a factory in Jersey City, N. J., and will equip and occupy at once for a new plant.

Monogram Knitwear Co., Inc., New York, N. Y., has been organized with a capital of 200 shares of stock, no par value, to operate a knitting mill for the manufacture of outerwear.

Albemarle (N. C.) Mills Co., recently chartered with a capital of $250,000, has taken over Propst Knitting Mills, Inc., to specialize in the manufacture of hosiery for men and boys. Improvements are being made and additional equipment will be installed. J. B. Boyette heads the new company.

Slane Hosiery Mills, Inc., High Point, N. C., men's half hose, plans a one-story addition to the mill, reported to cost close to $20,000, exclusive of equipment.

Treadwell Hosiery Mills, Inc., recently incorporated with a capital of $100,000, has plans for the operation of a knitting mill in High Point, N. C. Dixon Ahl and R. F. Laws, High Point, are to head the new concern.

Diamond Knitting Mills, Inc., Newton, N. C., men's, boys' and misses' anklets, has been purchased by Roy Furr, heretofore connected with Ridgeview Hosiery Mill Co., Newton, and associates. Operations will continue as before.

An expansion and improvement program is now under way at Pilot Full Fashion Mills, Inc., Valdese, N. C. An expenditure of $1,200,000 will be made.

Oxford Knitting Mills of New York have plans for the removal of the plant to Whitman, Mass., and will manufacture men's hosiery.

Brunswick Knitting Mills, San Francisco, Calif., have under way construction of a mezzanine to be used for storage, thereby freeing the second floor for additional machine installations.

Hugh Grey Hosiery Co., Concord, N. C., has purchased controlling interest in the liquidated Concord Knitting Co., which will be operated as a finishing division.

May-McEwen-Kaiser, manufacturers of full-fashioned hosiery, and Burlington Mills Corp. have undergone a consolidation that will merge the operations of the two large concerns.

Cooperation of Manufacturers Requested for Postwar Census

Early in the next quarter the government will begin sending out questionnaires for the nation-wide census of manufacturers, based on final 1947 data. This is described as being probably the most important and significant industrial census ever projected and is expected to afford a clear and complete picture of the changes that have occurred since prewar.

The last previous one covered 1939, the biennial inquiries having been suspended during the war period. Leading groups of manufacturers and distributors are calling this project to the special notice of their members.

The inquiries will comprise eight major parts and will cover production during the year; the labor, materials, fuel and electric energy consumed; the inventories of goods and materials on hand; the highway motor vehicles owned or leased; the expenditures for plant and equipment, etc.

The reporting forms received by individual establishments, it is stated, usually will vary enough to allow for industry differences, particularly in the consumption of selected materials and the manufacture of specific products. It is understood about 200 forms have been designed for this purpose, so that each establishment may receive a form suitable for its purposes.

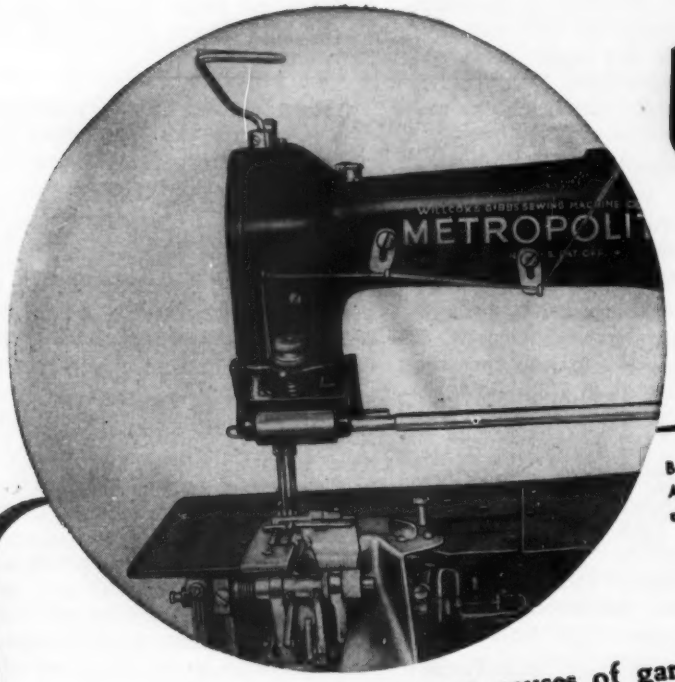
The first of the eight principal sections contains a series of inquiries intended to enable the Census Bureau to identify each establishment precisely and to classify the data obtained by geographic location and legal form of organization. The longest part of each form will cover employment—such questions as total number employed, payroll outlay, man-hours worked, etc.

Illustrating the scope of other inquiries, the part on capital expenditures will be broken down to show the figures for: (a) new construction, major alterations and other permanent structures; (b) new machinery and equipment; (c) land acquired; (d) other items chargeable to property account.

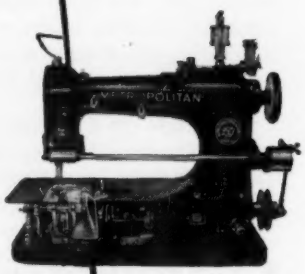
Since the census is to be conducted by mail, trade groups are requesting their members to complete their reports as promptly as possible and mail the replies back to the Bureau, as this will help to economize on the outlay of public money for this census. It also will help to speed up the publication of the results, thereby enhancing the value of the undertaking and giving business interests vital information.

Manufacturers are being reminded that reporting in this census is mandatory, but safeguards have been set up to protect the interests of the individuals or corporations that furnish the information. The Census Bureau is exclusively a service agency which operates to provide information required by business and other groups in the nation, it is explained, and the same Act of Congress that authorized the taking of this census also prohibits using any of this data for regulation, investigation or taxation, because the Census Bureau is forbidden to reveal individual reports to any person or agency, even in the federal government.

UNIFORM SIZES



Built like a miniature puller feed. Actuated by means of a roller type clutch. Driven from the Main Shaft.



One of the most frequent causes of garment rejection—irregularity in size—is virtually eliminated by the "W&G" patented Perfect Stretch Elastic Tension Device, incorporated in machines used for attaching flat elastic to the tops of rayon, silk, cotton and wool undergarments, athletic shorts and similar articles.

A predetermined amount of elastic is delivered to each garment coincidently with the sewing operation, from a reel conveniently located near the head of the machine, and guided automatically through knurled rollers which control and maintain a steady, uniform tension on the elastic—without handling by the operator.

Perfect size to each garment is thus definitely assured.

Send for Illustrated Descriptive Bulletins 837 and 885

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214 West 39th Street, New York 18, N. Y.

Komet Links & Links Machines

New Attachments and Improvements

By K. O. METZ

THIS ARTICLE contains a comprehensive discussion of various improvements on Komet and Links and Links knitting machines as described by an experienced authority. Suggestions are presented here which should prove helpful in keeping your machines up to date.

Article 3*

IN A RECENT ARTICLE, discussing various improvements on late model machines, we said, "To be of real value, changes in the controlling mechanism of any machine should in some way help to increase production. This can be accomplished only by making changes which will prevent avoidable mechanical difficulties. In other words, the improvements should eliminate the causes of breakdowns."

New Pattern Chain Control

That is exactly what the new pattern chain control does. It *prevents* pattern chains from getting out of time. The Komet fixer knows what happens when the pattern chain runs out of time. The double feed controlling mechanism fails to function in harmony with the quality drum movement in going onto the heel and toe, resulting in what fixers call a machine hung up or stuck.

In most cases the actual damage done to needles or sliders will be of minor importance compared to the production lost and the time required to remove and replace two upper and one lower cam section in order to get the sliders out of the respective cam races.

This new chain control can be applied to any Komet or Links and Links machine. It consists of two redesigned parts; namely, a chain rack wheel No. 102881, and a chain racking cam No. 102919. The old style chain rack wheel No. 302154 has 50 teeth; the new style No. 102881 has 25.

The old style chain racking cam No. 101412 is shown in Fig. 1. The arrangement of teeth in the old style chain rack wheel No. 302154 is shown in Fig. 2.

The new style chain racking cam No. 102919 is shown in Fig. 3, and the arrangement of teeth in the new style chain rack wheel No. 102881 is shown in Fig. 4.

Old Style Cam

The old style racking cam (Fig. 1) has two identical camming surfaces on opposite sides, one complete revolution of the racking cam supplies two moves for the

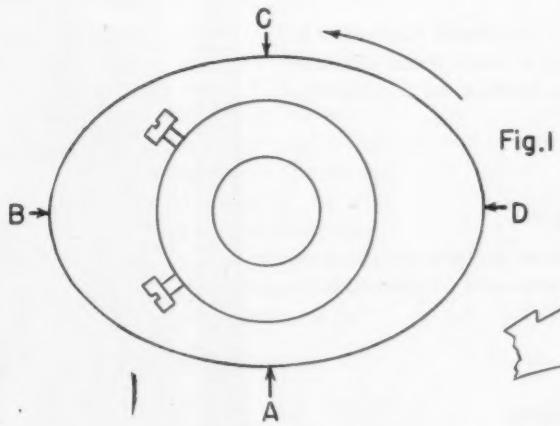


Fig. 1

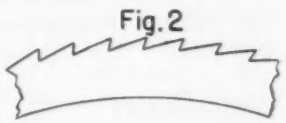


Fig. 2

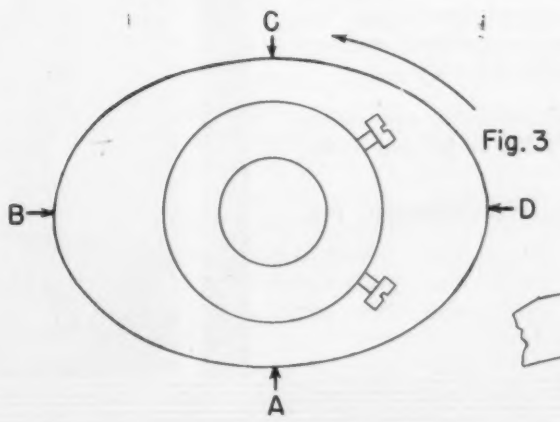


Fig. 3

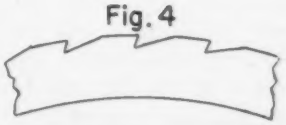
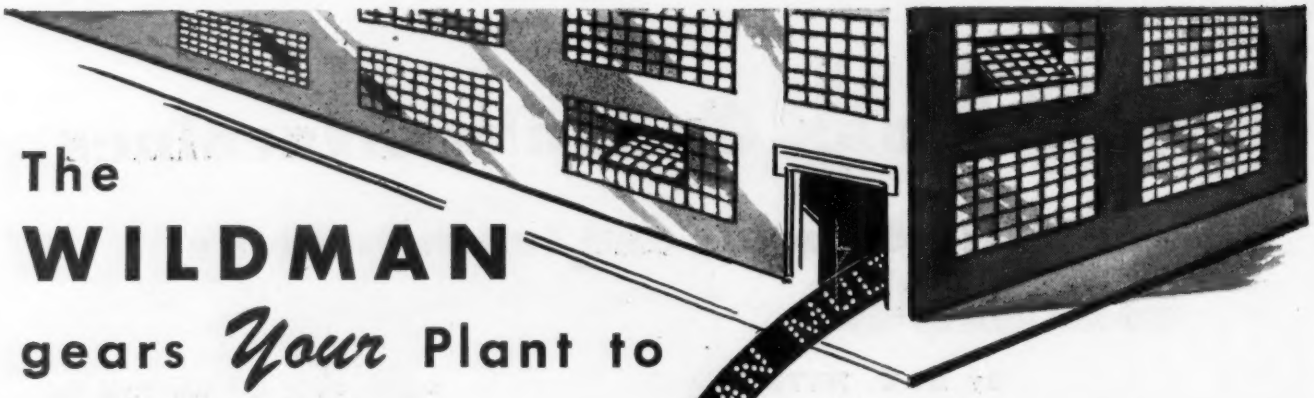


Fig. 4

*This is the last installment in this series of articles. Article 1 appeared in the September 1947 issue, and Article 2 was published in the November 1947 issue.



The WILDMAN gears *Your* Plant to MODERN Production!

WILDMAN MULTIPLE FEED RIB MACHINE

Leading knitting mills throughout the United States are enjoying the many exclusive mechanical advantages of this WILDMAN MULTIPLE-FEED RIB MACHINE. These advantages are reflected in greatly increased volume, more and better patterns, marked product improvements, etc. For example:

Doubles Production

or better. This is the invariable rule when a WILDMAN with its 16 or more feeds replaces the ordinary 8-feed machine on exactly the same floor space.

Multiplies Style Range

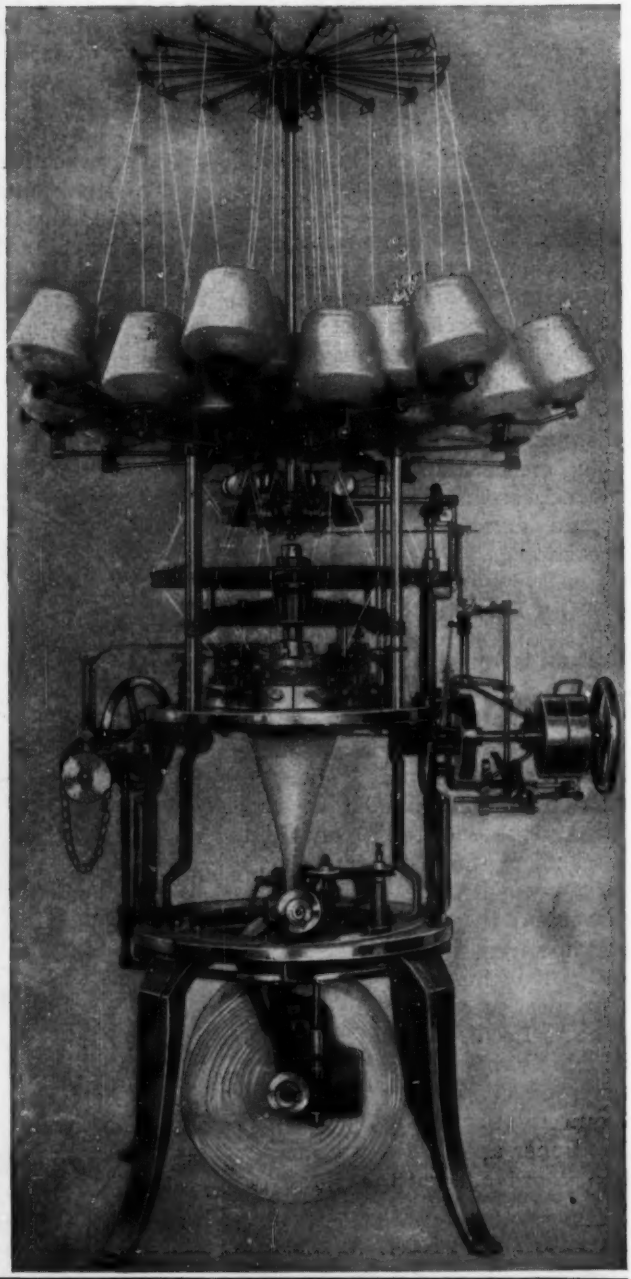
offering a much greater opportunity for pattern design in sports wear and all other knitted garments.

Stabilizes Garment Sizes

Feeding the yarn under absolutely even tension, uniformity in garment sizes is easy. The ability to tie cone to cone without stopping machine is another WILDMAN feature.

There are many other interesting operational advantages that we'd like to tell you about.

WILDMAN MFG. CO., Norristown, Pa.



racking pawl, using two teeth on the chain rack wheel (Fig. 2). One move for the racking pawl is supplied by the camming surface from a to b, and from b to c the racking pawl drops back one tooth on the chain rack wheel. The second move is made from c to d and the racking pawl drops back once more from d to a, completing the cycle. Every Komet and Links and Links fixer is familiar with the old style chain control and knows that it must be timed, if and when the chain movement has been stopped and started, by using the hand-operated pawl idling lever.

New Style Cam

The new style chain racking cam (Fig. 3) operates in the same manner, supplying two moves for the chain rack wheel (Fig. 4) for each revolution of the chain racking cam, *but* only *one* tooth on the chain rack wheel is used to make the *two* moves.

This is done as follows: One move for the racking pawl is supplied by the camming surface from a to b (Fig. 3); from b to c the racking pawl remains motionless. The second move is supplied by the camming surface from c to d; from d to a the racking pawl drops back to the next tooth on the chain rack wheel and the cycle of chain movement is completed. Thus two moves of the chain rack wheel are made, using but *one* tooth for each full revolution of the chain racking cam.

By changing the contour of the racking cam and removing half the teeth from an old style chain rack wheel, a simple, positive and foolproof chain control device has been developed. The writer is really sold on this improvement—start and stop the chain as often as you like—it stays in time. In our opinion it is *the* outstanding improvement made on Komets to date.

Improved Brake Shoes

While we are on the subject of chain racking cams and chain rack wheels, we cannot refrain from mentioning a minor improvement made on the brake shoes No. 302156 (plate 6) in your parts catalog. On older models of Komets, the brake shoe cam No. 302158 (plate 6) operates directly against the lower ends of the brake shoes. On late models, the brake shoes are equipped with a metal end as shown in Fig. 5.

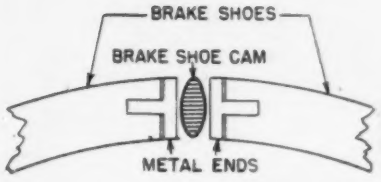


Fig. 5.

The new metal brake ends provide better camming action for the brake shoe cam, prevent sticking, and less readjustment is required to keep the proper amount of friction on the chain rack wheel. Constant use will in time cause the brake shoes to become worn, thus reducing the pull of the brake release lever spring. When the pull on the spring becomes insufficient to control the movement of the chain rack wheel properly, chains will run out of time on old model machines with old style chain controls. We recommend the application of metal ends to brake shoes on all Komets and Links and Links machines. Time and effort spent in applying them will help to prevent trouble which causes production losses. If your machines are equipped with the new style chain controls and metal ends on the brake shoes, sufficient friction on the chain rack wheel is still important. Lack of friction can cause faulty main drum movement which means trouble, and plenty of it.

Other Improvements

Broken springs in the spring pockets on the clearing cams in the upper sections and the heel bolt cam, are not uncommon. The damage caused by broken springs as a rule amounts to nothing more than a few broken sliders, making a piece of waste or several seconds. Occasionally the damage may be greater. The cost of a new spring is secondary, and it takes very little time to replace a broken spring. However, these minor mishaps cause production losses, and that is important.

New machines are now equipped with *double* springs; a small spring inside a larger one. Both springs are made of lighter wire, thus supplying as much pushing power as the old heavier springs. Just another instance where a minor change helps to prevent avoidable machine trouble, making less work for the machine fixer and better production for the mill.

A New Guard Cam

During the past few years, quite a number of guard cams have been added at various points in the slider butt races to insure better control of the slider butts. The name "Guard Cam" implies that a given cam is placed at a certain point to guard the slider butts; in other words, prevent avoidable slider butt breakage.

In every instance when a new guard cam has been added on later model machines, we have made it a point to add these cams to older models, thus keeping our machines up-to-date and getting full benefit from these improvements. The latest addition along this line, found on new Links and Links machines, is a guard cam placed immediately under the center cam on the stitch cam bracket assembly. The new guard cam is shown in Fig. 6.

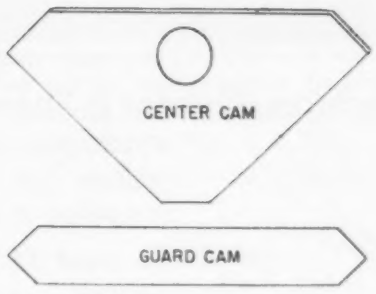


Fig. 6.

The reason for placing this cam at this particular point is quite obvious. It prevents the slider knitting butts from being driven down too far by the center cam. Thus the slider knitting butts are kept under control from the time they leave the lower point of the center cam until they make contact with the respective stitch cams. This in turn assures better control of the needles at a point where they begin to take the yarn and start their downward movement. Just enough clearance be-

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Fashion dictates a "new look" — calling for extra yardages of rayon, silk and Nylon; calling for higher production in the throwing of these yarns.

To meet this problem of greater speeds and finer qualities, Cloverleaf-Freeland engineers are always at work designing new Bobbins and developing new constructions—supplying Bobbins that are tested and proved under actual operating conditions.

This is just one example of the service at Cloverleaf-Freeland—service that builds great Bobbins.

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tween the lower point of the center cam and the upper surface of the guard cam is provided to permit the slider butts to pass freely.

There may be other reasons for placing the guard cam at this particular point of which we are not aware; however, experience has taught us that machine builders make changes and additions *only* when they are needed.

Improved Lubrication Facilities

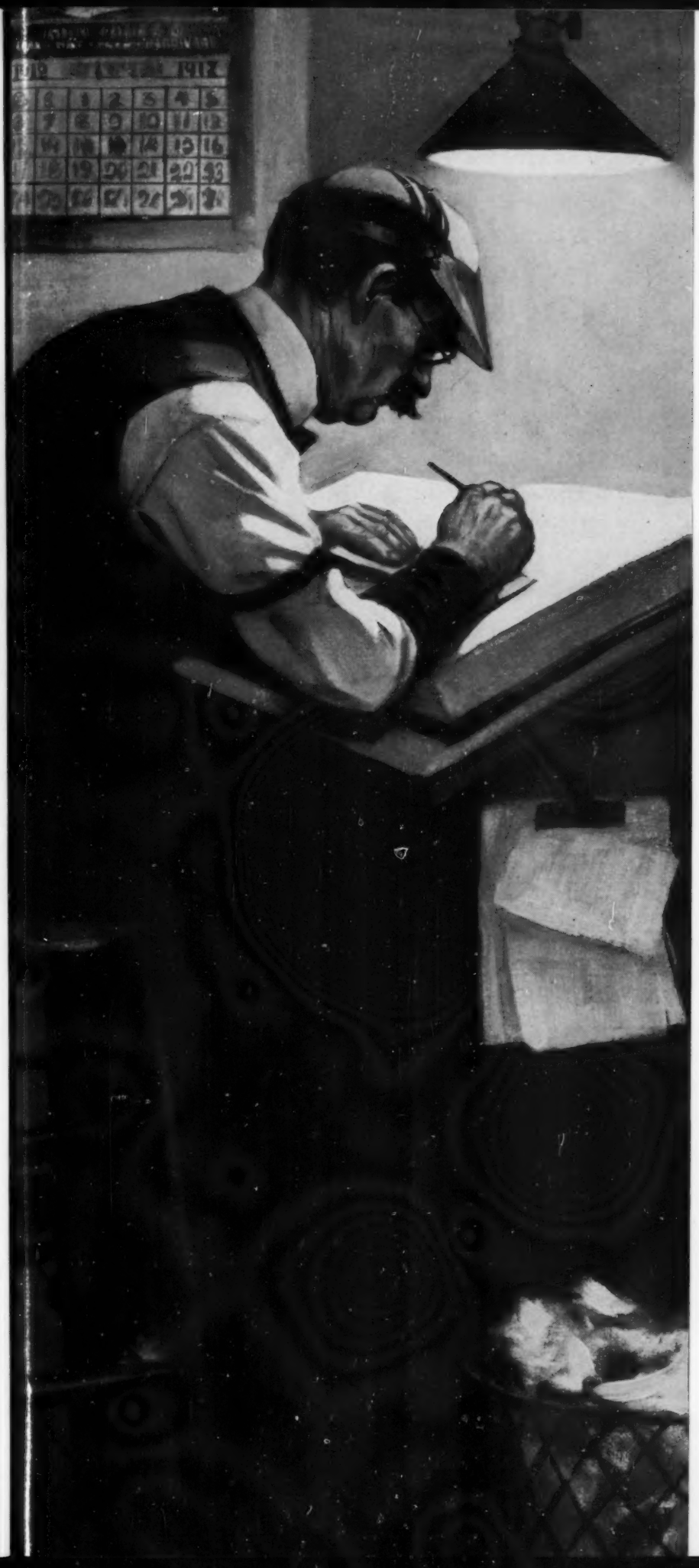
We do not know the exact date when the "wheel" was first invented, or by whom. Perhaps the first wheel did not have a shaft or axle or even a hole in its center. No doubt shafts, axles and bearings came next and then, as sure as night follows day, came *lubrication.* It had to come to keep the wheel turning. We are living in an age of speed, going places in a hurry, getting things done quickly, all of which adds up to friction.

To eliminate, reduce or minimize friction, we lubricate; there is no substitute for it. Whether it be a giant locomotive, your automobile, a Komet machine or your wife's dime-sized wrist watch, lubrication keeps it running.

Much depends on the lubrication facilities provided or built into a piece of machinery, and in this respect Komets are not lacking. They are well supplied with grease-packed ball bearing units, oil feed tubes to ball bearing races, and oil retaining and distributing grooves in numerous bearings. To keep your Komets properly lubricated, follow three simple rules: Use the right kind of lubricant; apply the correct amount, and do so at regular intervals.

Two Changes

On late model machines we find two changes in lubricating facilities, namely, the segment gear bearing and the sinker sleeve assembly. On earlier models the segment gear was supplied with an oil hole in the center of its bearing. The hole was somewhat difficult to locate and perhaps for this reason it was overlooked or neglected. Eventually this neglect would result in a frozen bearing. On late models, an oil cup has been attached to the left end of



The Disappearing Pension Fund— Circa 1912

Uncle Henry, in his high starched collar and celluloid cuffs, liked to talk about his "progressive" employer with his enlightened pension plan.

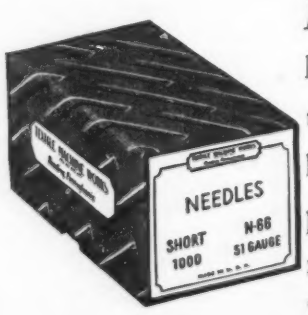
For 30 years Henry watched the pension fund grow on paper. In 1912, when he was ready to retire, his employer said: "Henry, all retirements under the pension plan are postponed indefinitely. The pension fund is part of the working capital. And you know how bad business is today. I'm dreadfully sorry."

Uncle Henry was sorry too.

Take a look at your last Financial Statement: Are you carrying the money that you charge off for Depreciation as a "*current*" or as a "*fixed*" (plant) asset? . . . Is it money in the bank or is it money that you owe to yourself?

Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
READING, PENNA.



Beautiful as a Butterfly . . . Gossamer sheer, breathtakingly lovely, flawlessly-knit full-fashioned stockings mean added attraction to the loveliest of ladies. To assure these finer qualities in full-fashioned knitting, TMW Needles are "Fixture Drawn"*, a special TMW patented process that holds the needles straight and true. Let us put your needle bars in shape for faster, more accurate, more profitable knitting.

*Reg. U. S. Pat. Off.

TEXTILE MACHINE WORKS • READING, PA.

the cup as often as necessary and the segment gear bearing will never lack oil.

New Method For Lubricating Sinker Sleeve Assembly

The new method for lubricating the sinker sleeve assembly is really a Jim Dandy, and a major improvement indeed on an inaccessible bearing. The sinker sleeve assembly has two bearing surfaces (see plate 17 in your parts catalog), one on the upper end immediately under the sinker ring, and another one approximately in the center of the sinker sleeve. A certain amount of oil can be fed to the upper bearing by applying oil liberally around the upper part of the cylinder so it can drain down into the oil grooves in the bearing. Some oil may finally get to the lower bearing also.

The lower bearing is well supplied with grease when the machines are assembled or when taken down for cleaning or repairs in the mill. Flooding the upper portion of the lower cylinder and the sinker ring with oil produces an excessive amount of oil-stained goods, which, to put it bluntly, is a pain in the neck to most mills, especially if they are making light colored ingrain goods.

Oil Tube Provided

On late model machines, an oil tube is provided which runs up on the inner side of the sinker sleeve, having an outlet in the upper bearing. The lower end of the tube projects about ½" below the lower end of the sinker sleeve and is provided with a grease gun nipple. To lubricate both upper and lower sinker sleeve bearings, simply attach a grease gun loaded with light grease or heavy oil, as you prefer, and give the bearings a shot. This beats taking a machine down for re-greasing and eliminates oil stained goods, caused by flooding the lower cylinder with oil.

The new sinker sleeve oil tubes can be attached to any Komet or Links and Links machine. If you are not applying them to older machines now, you will pay plenty for trying to get by without them.

While we are on the very interesting and tremendously important subject of lubrication we cannot resist passing on some information we received from a factory service man who visited us recently.

We were discussing lubricating problems on Komets and Links and Links machines and the service man asked us, "Do you have much trouble with oil stained goods?" We readily admitted that our machines did produce some oil stained goods, but whether or not we were producing more or less than other mills we naturally would not know. However, we do know that we are having much less oil stained goods than we had several years ago. Better results are being obtained from a well planned lubricating program. Furthermore we are constantly trying to better our past records.

Stopped Oiling

"Well," he replied, "I stopped in to visit a mill a few days ago and they told me they were having entirely too much oil stained goods. They stopped oiling sliders and sinkers entirely to overcome this trouble. They said, 'We believe it will be cheaper to replace worn out parts than stand the loss caused by oil stained goods'." All we can say is, it's their little red wagon and we hope it will hold the worn out parts which will sooner or later have to be hauled to the scrap pile.

That kind of reasoning reminds us of the story told about the man who, while fishing, suddenly noticed water coming up through a hole in the bottom of his boat. He promptly made another hole to let the water out.

This completes our discussion of new attachments and improvements found on today's Links and Links machines. We have been told that additional improvements are in the making, and if so, we shall continue these discussions at an early date. Additional articles pertaining to care, operation and production problems of Komet and Links and Links machines will be found in later issues of TEXTILE INDUSTRIES, and we shall strive to make them interesting and helpful.

Simplex Tricot Machine Announced by Reiner

A new Simplex tricot machine will soon be shown to the public by Robert Reiner, Inc., Weehawken, N. J., according to a recent announcement. Technical data on the new machine follow.

Working (knitting) width is 84"; guide bars are supported on Oilite blocks; spools are either sectional or full width; shafts 2¾" or 4½" diameter; hand wheel and shipper rod are on entire length on both sides of machine. The machine comes completely wired. It is equipped with aluminum bars. Sleypoints are optional equipment (30-32 gauge). Cast needles or individual needles are also optional.

A predetermined rack counter and speedometer are mounted for clear access and ready vision. Hand wheel shaft and other fast moving shafts are mounted on ball bearings. Heavy shafts assure vibration-free and precision movement of the knitting elements. The bars are fixed on their side location by measured stops on both sides of the machine. Heavy frame and gird assure vibration-free operation and maintain good alignment, according to the manufacturer.

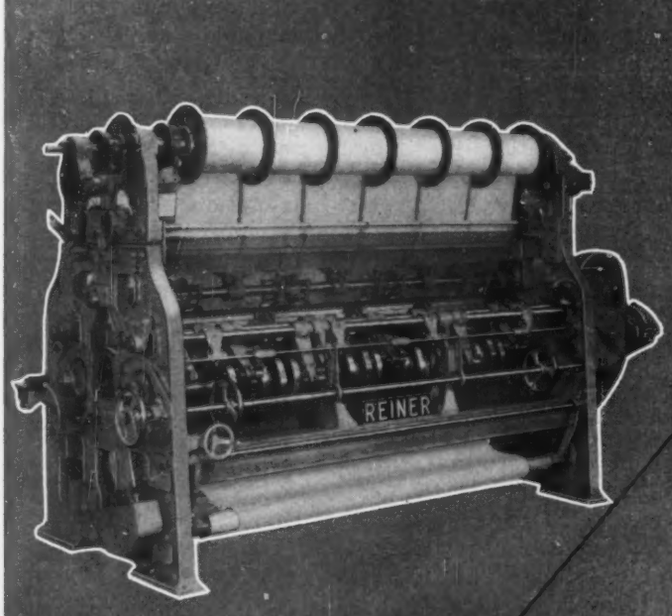
Main shaft supports are in oil splash ring bearings. All oscillating shafts and studs are supported in bearings lined with Oilites. Large beams assure smooth operation, it is stated.

Cam rollers are equipped with needle bearings and patented lubricating drive to keep always an oil film on cam surface and to wipe off grit and dirt. The beams are loaded into the machine and rest on saddle supports. The beam is disengaged from the beam feeder by means of a hand knob operating a spring loaded slide gear. All drive gears for mainshaft are located in oil-tight housing.

The machine is driven by means of V-belt drive and 2 hp - 900 rpm motor. A plugging switch can be installed for quick stops if so desired.

The pattern wheel is a plain jersey wheel or Atlas wheel, operated in an

the new REINER



SIMPLEX MACHINE

REINER ALSO OFFERS

a full line of preparatory equipment such as creels and warpers for all requirements, warping spools, hydraulic beam lift wagons, stop motion equipment, and other auxiliary items, thus giving the knitter a continuous line from start to finish, all available from one source.

Ask for our richly illustrated catalogs.

The new Reiner Simplex Machine is ready for your inspection. You are cordially invited to write to us for an appointment.

The Reiner Simplex Machine is of the most modern construction and its features make it the most economical producer of the finest Simplex cloth yet made. It takes spools up to 21 inches in diameter, or any spools of the conventional size. Knitting width 84 inches.

For those interested in the manufacture of gloves, swim suits, sport shirts, sport jackets, sport shoes, bed jackets, hand bags, slip covers, night gowns, and dresses, to see this machine is a "must."

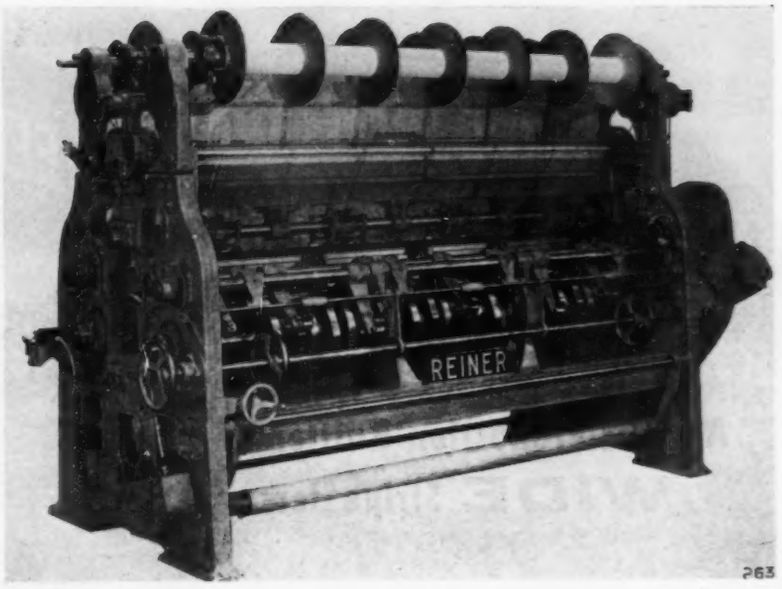
FOUNDED IN 19

ROBERT REINER INC.

550-556 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue.

TELEPHONE: UNION 7-0502, 0503, 0504, and 0505.



This new 84-inch Simplex tricot machine, developed by Robert Reiner, Inc., will soon be available for public inspection.

oil trough. Change gears are located in an oil bath. The retardation of the pattern wheel can easily be put in and out of action by means of a hand lever.

The machine takes 14" or 21" beams, sectional or full width. Beams are driven by a completely inclosed beam feeding, oil bathed device, which receives its power through a vertical shaft coming out of gear box. The device has adjustable contact springs.

The take-up roller covers the full width of the machine. The knitted fabric is protected against drop oil by an oil pan and by two layers of Plexiglas through the entire length of the take-up roller.

Yarn is fed to the needles over a cam-regulated tension tube operated in synchronization with the knitting cycle and over a floating tension tube which regulates the warp beam drive.

Linear Ball Bearing

Thomson Industries, Inc., 1029 Plandome Rd., Manhasset, N. Y., has announced the development of a new type unlimited travel anti-friction ball bearing for linear or reciprocating motion.

The bearing is a complete self contained unit and has only three basic parts in addition to the balls. The first is a sleeve made of 52100 ball bearing steel, hardened and ground to close tolerances. Second is a pressed steel retainer which is fabricated in long continuous strips. cut off and rolled up to fit inside the sleeve. Third is a pair of rings which are pressed in the ends of the sleeve to position and secure the retainer to the sleeve.

The new bearings, called "Series A" ball bushings, are presently available for shafts having ¼", ½", ¾" and 1" diameter. Other sizes will become available as soon as the production tooling for them can be completed. Engineering data on the sizes now being produced is available upon request.

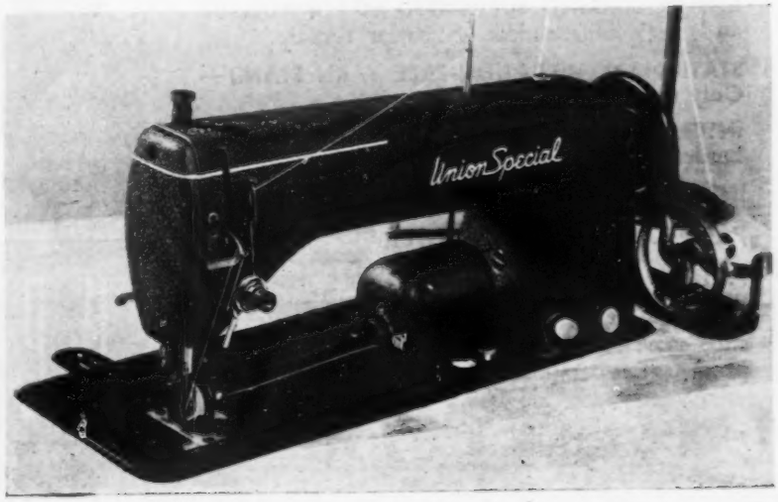
According to the manufacturer, the new bearing has an extremely low friction coefficient which prevents cocking and binding, and its free rolling action maintains precision alignment by elimination of wear. These ball bushings do not depend on the maintenance of an oil film over an exposed surface for lubrication.

Top-Roller Feed Lockstitch Machine

High speed and easy adjustment are two features claimed for a new top-roller feed lockstitch machine announced by Union Special Machine Co., Chicago, Ill. With the top roller feed lockstitch, it is said to be possible to attain outstanding speed in matching operations.

Compact and simple in appearance and design, the top roller feed gets its power from the lower rotary shaft by an eccentric connection. Intermittent feeding action is secured through the use of the new curved block clutch. Motion is transmitted to the feed roller through double universal joints and connecting shaft running in a grease-packed tube.

The feeding action is adjustable to run faster, slower, or at same speed as the regular machine feeding mechanism, and inertia and friction are greatly reduced. The new lockstitch machine is being produced in two styles, Style 61300 KA for light to medium work, and Style 61300 LA for medium to medium heavy work.



SUPREME'S NEW 96 FEED MACHINE

A HIGH Production Knitter of WIDE Stripe Jersey

Produces 3½" Wide Stripes at 125 Yards Per Hour

Now you can knit those wide, bold stripes that shrewd store buyers demand. 96 Uniform feeds on the 26" diameter Supreme Model MJ Wide Stripe Circular knitting machine gives you the ability to sell this discriminating market wider jersey stripes and yet increase your mill poundage. If you produce unusual piece goods for the polo shirt and ladies blouse trade, you cannot afford to be without this new 96 feeder.

Here are some of the features of this high production, high precision unit.

MICROMATIC STITCH CONTROL—The stitch from each of the 96 feeds is kept precisely uniform by individual Micromatic control for each cam. The operator adjusts the stitch by merely turning the indicator dial on each section by hand. No guesswork or tools are required.

VERSATILE—Will knit cotton yarns from 8/1 to 36/1 or their equivalents in wool, rayon and silk.

INTERWINDING "FLOATING TAKE-UP"—Achieves perfectly uniform tension between the take-up and knitting elements at all times.

ROLLER BEARING SUPPORTED CLOTH ROLL-UP—Entirely independent of floating take-up.

STATIONARY VIBRATION-FREE YARN STAND—Only the cylinder and takeup revolve.

INTERLOCKING CAM RACEWAY—of specially hardened steel cams.

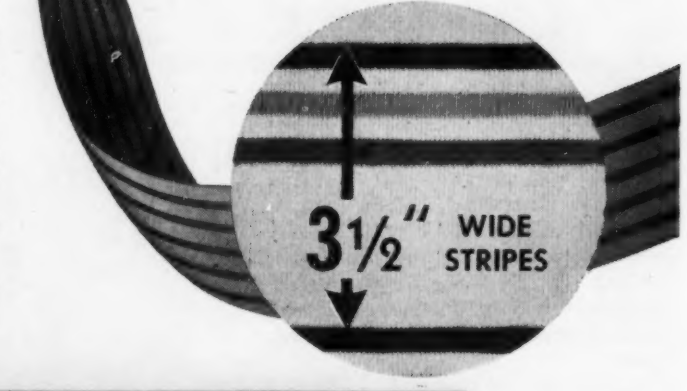
INSERTED WALL CYLINDER

PATENTED MULTI-DISC CLUTCH

AUTOMATIC IDLING HAND WHEELS

Write for further information or, better still, come to Supreme and see this efficient producer in operation.

SK-104



SUPREME
KNITTING MACHINE CO., INC.
105 Johnson Ave., Brooklyn 6, New York, N. Y.

Novelty Hosiery Predicted Due to Shortage of Nylon

Makers of nylon full-fashioned stockings lately have faced a disturbing development—they will not get more nylon yarn, and this will reduce considerably their ability to satisfy the pre-holiday consumer demand for such goods. They are being told that eventually the supply of nylon yarn for stockings will be ample for all the productive capacity that now exists in the hosiery industry; but the exact time when this can be counted on has not yet been stated, and stocking manufacturers now seem to believe it will not be in the very near future.

Therefore, some manufacturers are said to have essayed to test out the possibilities of novelties in the hosiery field, and observers say more will be heard later on as to the outcome of these experiments. The technique, it is explained, is for a stocking producer to introduce some feature that is not accepted as a standard type. For example, when dark colors appeared for stockings, some manufacturers discarded the idea. It has since been demonstrated that dark stockings now are an important item among most of the fully-equipped hosiery suppliers.

There are said to be novelties that do not remain as permanent additions to a line, but become available for select groups of retail customers. It is up to the buyer to determine the final decision as to stockings of this sort. Some additional innovations now being prepared for introduction are reported to include: black heels and seams, clocks, flowered heels, opaque nylons, and fancy jacquards. An industry authority says:

"It is well to keep in mind that novelties are in greater demand when the supply is plentiful, and, when abundance is reached, those who have made acceptable novelties will probably profit thereby."

It is added that clocks always have met with favor in men's hosiery, but whether women will approve them is anybody's guess. In favor of experimenting with clocks, it is stated that they can be made conservative enough to attract most women, and they undoubtedly add a minor kind of ornament that most people may like. This well-known critic of hosiery styles continues:

"One novelty that may receive great support is the knee-high full-fashioned stocking. This type seems to be particularly timely since the lengthening of ladies' hems. Many young ladies are reported to dislike long stockings, as they regard them as burdensome to freedom of motion. It may turn

LOVELY LADIES EVERYWHERE —

including daughters, mothers and grandmothers are happy to receive hosiery *"DuraBeau" finished,* not only at Yuletide, but throughout the year, — because *"DuraBeau"* endows hosiery with exquisitely dull sheerness, plus increased spot, snag and run resistance . . . thus adding "miles more wear". Remember, "DuraBeau" imparts the *film of protection and beauty.*

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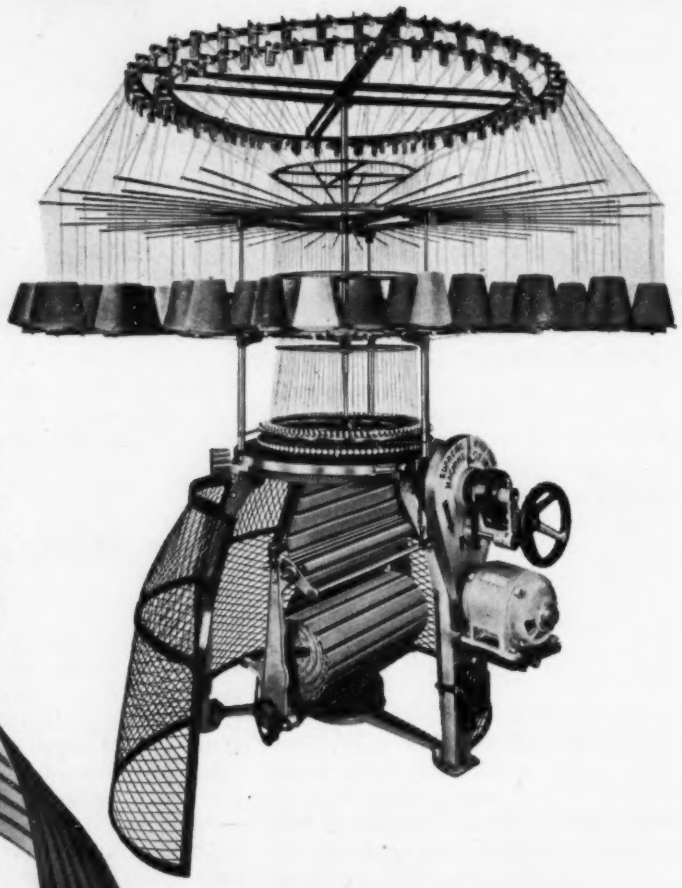

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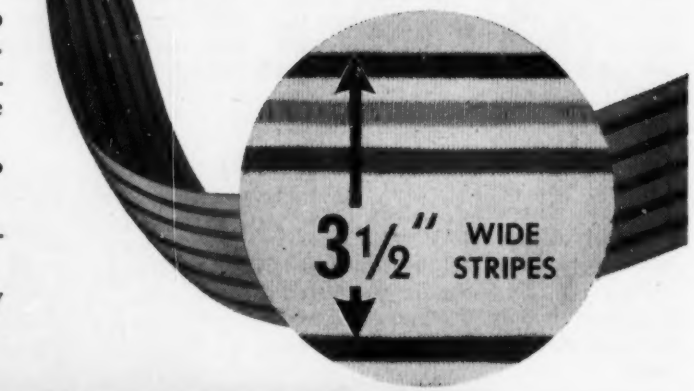

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Mr. Wm. S. Montgomery
3701 N. Broad St.

NEW YORK, N. Y.
Mr. M. L. Rixon
2806 Empire State Building

out that this innovation, like dark stockings, will receive early endorsement by the younger women and girls."

It is pointed out in this style summary that the history of the industry shows that what is regarded today as a novelty may tomorrow have become a standard article. It is ventured that a good many manufacturers are now taking this view, and many producers who previously regarded new vogues with suspicion are now in the mood to make some experiments. Considerations leading up to such a decision are set forth as follows: (1) It makes for a fuller stock; (2) It permits the seller to offer something different; (3) It helps to create styles and more consumer attention for full-fashioned stockings.

Aside from these suggested novelties, hosiery manufacturers are reported to have kept closely in contact with nylon yarn sources on their plans for supplying requirements during the next quarter. The inquiries, it is stated, seem now to concentrate around what deliveries can be expected for 45-30 denier stockings, as well as for the finer deniers.

It is authoritatively asserted that there already is evidence of a remarkable reversal in attitude among hosiery buyers as regards the early part of 1948, inasmuch as not long ago there seemed to be general expectation of a seasonal letdown in hosiery demand after the turn of the year, but now the buyers seek full coverage for January and later.

Operating Statement Vs. Balance Sheet

For some months it has been noted by leading credit grantors that the upward spiraling of costs and prices has put a strain on the financial resources of a great many concerns, and especially small outfits that have become active in the various fields during the past year or two. This being the case, credit authorities now are pointing the way toward adoption of different criterions in the granting of credit.

It is not contradicted that debtors' statements of assets cannot be expected to be as liquid as heretofore. In such case, it is claimed, manufacturers concerned with extension of credit will do well to place emphasis on balance sheets, rather than customers' operating statements.

It is being cited that such economic factors as rising prices of raw materials, broad upturns in dollar-values of inventories, higher wages and replacement costs, etc., tend to raise the "break-even" points in most lines. And this trend has reached the stage where working capital has become inadequate, if numerous concerns are to carry on next year the volume they handled this year and last.

Taking the case of a cotton mill that since 1939 has tripled its sales volume, an authority states that: its raw material costs have advanced 250 per cent; its inventories account for over 50 per cent of its accumulated surplus; and its accounts payable are about six times as large as in 1939. It is said to be evident that only by continuing to obtain quick payment from customers can such a mill keep credits due it down to a practical minimum, while sharply expanding its short-term liabilities.

It is claimed to be conservative to estimate that the new "break-even" point for such a concern is now about 25 per cent higher than before the war, and at present costs and prices, the physical volume of its production must be at least one-fourth greater than in 1939. Therefore, such developments as price reductions, or further wage advances, or diminished sales volume, it is contended, can be expected to exert much greater leverage on its operations and assets than at any time previously in recent years.

It is added that "thin loans" to carry excessive inventories, or such temporary "props" as short-

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term financing can scarcely be counted on as effective for small businesses, where the obvious remedy is longer-term equity financing—but the financial status of such outfits seldom suffices for them to get such accommodation, either with or without banking assistance.

Credit experts admit that rapid turnover of wanted merchandise and the continuing rise of merchandising values have contributed toward a satisfactory week-by-week report on the condition of collections in most lines. On the other hand, those responsible for collections from long-time customers, where goods are being ordered for deliveries into second quarter of 1948, it is explained, must concern themselves with the underlying position of their accounts.

It is from this angle that a special study has been made of the credit outlook, the results of which are summarized above, credit grantors explain. The latter are described as feeling that as costs and prices rise in the U. S. economic set-up, the fundamentals for credit grants must necessarily be safeguarded. Consumer outlay for wanted merchandise now seems to be greater than current income, it is asserted. With the ultimate purchasers buying largely on their credit, the question is being asked: What will happen to manufacturers and distributors of textile apparel supplies when the top limit of consumers' credit is reached?

Consumers to Be Told About New Size System

Most manufacturers of textile apparel items are accustomed to getting complaints to the effect that some of the garments failed to fit the customers. It often developed the customer was guilty of not buying the right size. Mail order houses, especially, found it was essential to educate their customers to be careful in this respect.

Discussion in the industry, this year and last, showed that what was needed was to standardize the terminology of the sizing system in such a manner that it could be advertised to the consumers. The National Bureau of Standards of the U. S. Department of Commerce, it is explained, early became interested in this project, which has been enlarged to embrace other branches besides the knit underwear industry.

Citing infants' and children's wear as an illustration, it has been a custom to prepare and sell merchandise according to age and size designations—2 to 16, for example, and 20 to 54. However, size 2 or size 4 has not been defined in consumer terms, to the point where the customer can easily select the size that will give the best fit.

Hofmann

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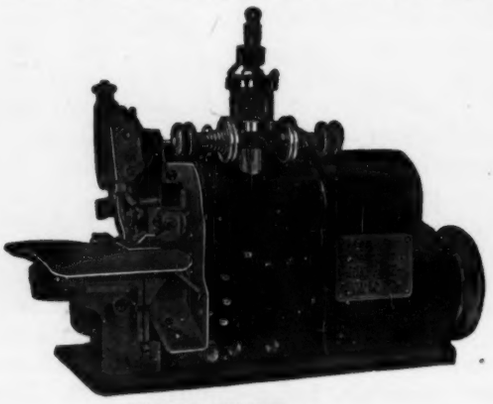

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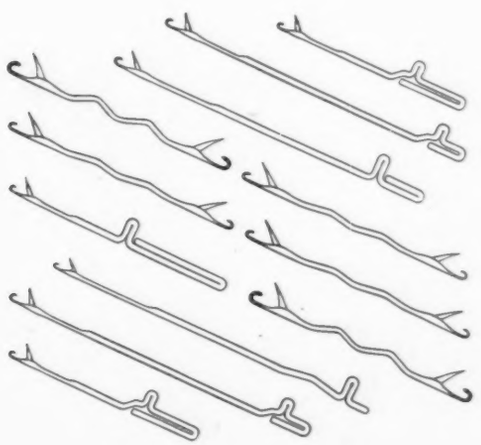

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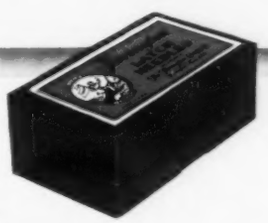

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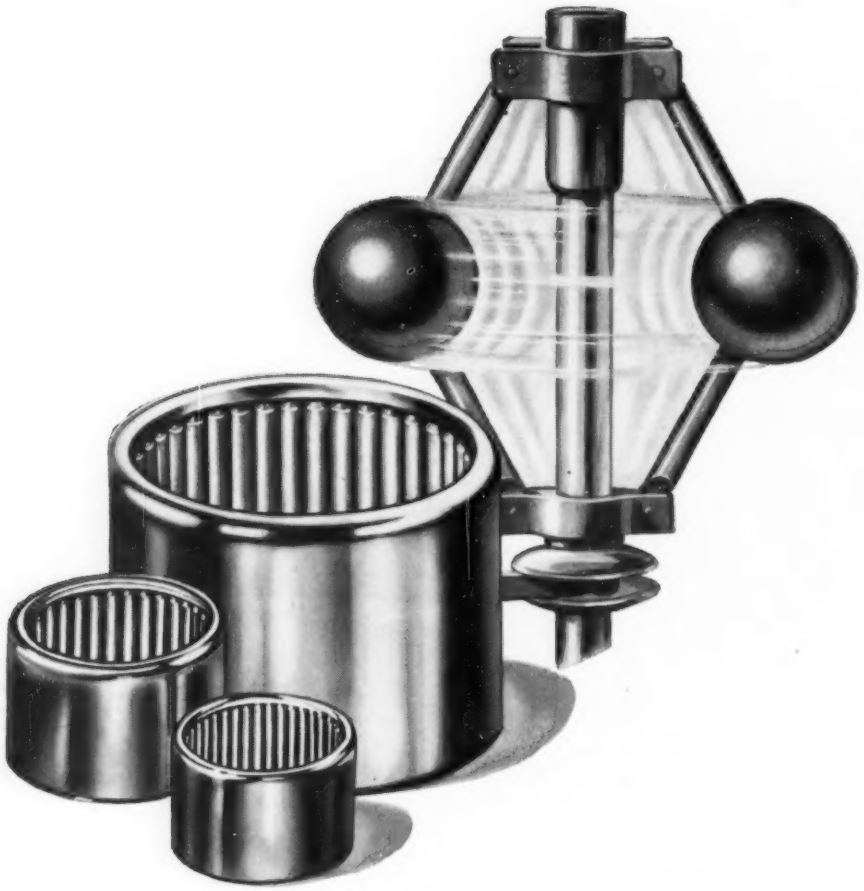

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It still is too much of a trial and error proposition, industry spokesmen admit. By providing standard definitions for size, according to height, weight and chest, waist or vertical trunk girth measurements of the child, it will be possible for all manufacturers to use boys or girls of the same basic measurements as models for fitting given sizes.

Such a dictionary of size was not available to the industry before, although it has been used by the paper pattern industry with good results for years. It has been recognized that there must be thorough understanding of the idea by the manufacturers themselves, before it can be put into widespread acceptance by the public.

The Division of Trade Standards has handled its part of this movement by respecting the existing practices prevailing among the various groups of manufacturers, avoiding any pressure excepting in cases where affirmative action has been taken collectively. A group of mail order sizing experts has cooperated in evolving sizing recommendations, in consumer terms, that represent a compromise sizing proposal—not for any one apparel group, but for all the various segments of the industry.

As outlined by authorities in the industry, the Division of Trade Standards has two broad interests, including: (1) To be certain the program is understood; (2) to give aid or cooperation to trade associations to make the program effective. With adequate industry endorsement, the National Bureau of Standards will publicize the program directly to the consumers, in cooperation with the retail stores.

It is said to have been discovered that in many of the mills contacted in this connection, the actual technicians and pattern men still were unfamiliar with the proposed realignment of sizing standards. Accordingly, it has been recommended on behalf of the various associations that the individual manufacturers should see to it that their technicians and production and pattern men are closely informed on the purposes and details of the program.

The infants' and children's wear group have urged acceptance of the recommendations and some time ago they set up a special committee to resolve the complications surrounding a duplicate size—a "toddler's" size 3 and a children's size 3. The Division of Trade Standards is understood also to have contacted the buyers' group, including the Infants' & Children's Wear Buyers Association, the Boys' Apparel Buyers Association and the Boys' Apparel & Accessories Manufacturers Association, and has obtained official endorsements.

How Large Are Mill Profits?

Within the next few weeks there will be many preliminary estimates published of industrial profits for the full year, 1947, with the customary invidious comparisons with net earnings reported by leading manufacturers in

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each line, for previous periods, back to prewar or even back to the 1920's. The estimated total for 1947 will be published in dollars, mostly without explanation, probably leading the general public, but especially the labor element, to suspect and assert that, as a general thing, industrial profits have been excessive. In the last couple of years, this attitude has led to demand for price reductions and wage increases.

A leading financial institution feels that this time both the public and the manufacturers should realize that dollar-volume estimates of corporate profits frequently reflect inventory, or "windfall," bookkeeping profits. They do not signify more dollars actually in the cash box. Also, corporate profits usually are overstated because the bookkeeping estimates of replacement costs are inadequate. This financial authority says, in part:

"We know of no way of laying down hard and fast rules for determining just how much the workers shall earn and save, any more than for laying down rules of this sort for the corporations. The main point is that the profits themselves are not all that they seem to be. Inventory profit represents highly illusory gains that could be changed quickly into losses if prices turned downward."

It is stressed that according to the national income figures released by the U. S. Department of Commerce recently, the factor of alleged "inventory profits" amounted to $4,700,000,000, or 38% of the estimated total corporate net income for 1946. Whereas the total net income was widely publicized as the largest on record up to that time, if allowance is made for inventory adjustments, it will be seen that 1946 final net from operations actually was below that of 1945.

It also is emphasized that there is a real question as to the extent to which earnings, as currently reported, are being over-stated, because of the fact that depreciation charges are commonly based on the original cost of plant and equipment and thus are wholly inadequate in view of the higher trend of replacement costs.

In a few industries, the principal concerns have notified their stockholders that the huge new investments authorized for rehabilitation and expansion are facing a stiff increase in the cost of doing the work. As reported for similar projects being carried out in the petroleum industry, for example, present costs for materials, labor, supervision, etc., are said to be two to three times higher than prewar.

Some companies are reported to have tried to adjust for this condition by setting up special reserves of one sort or another, but this is found to involve complicated accounting and tax questions, which often have puzzled the accountants, and now are being studied in an organized way by a special committee of the American Institute of Accountants.

It is also stated that insurance coverage bears close attention.

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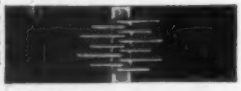

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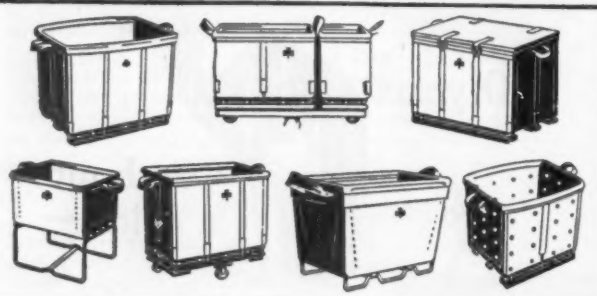

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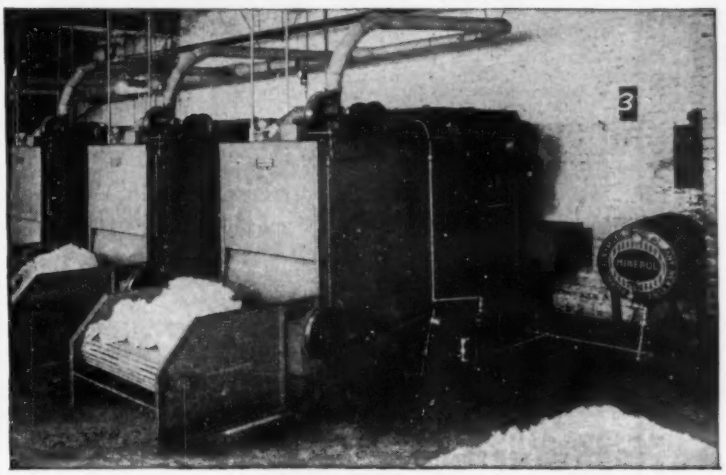

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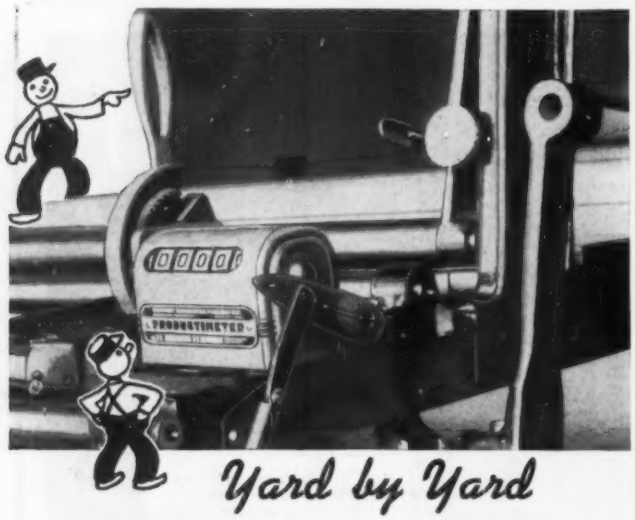

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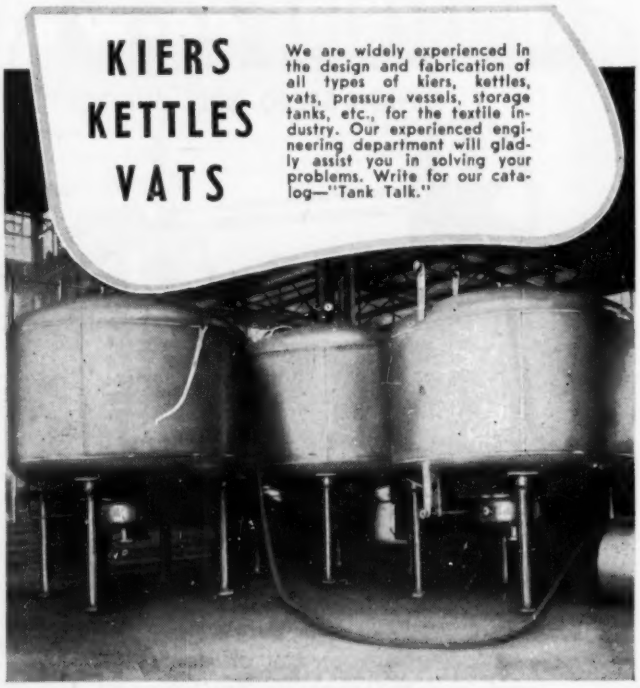

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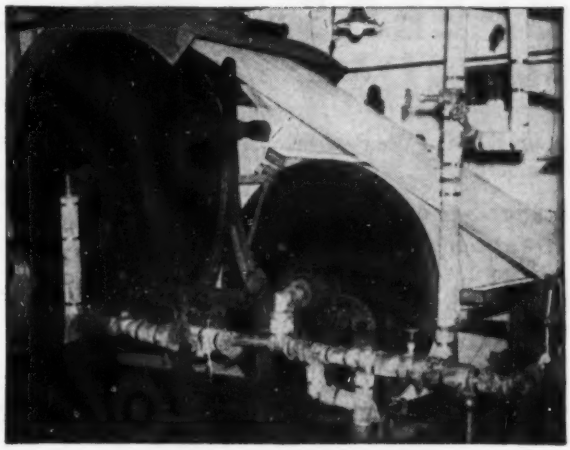

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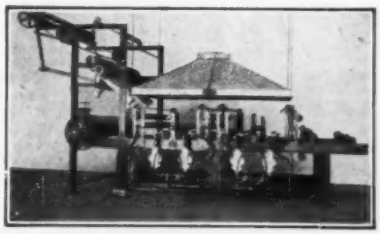

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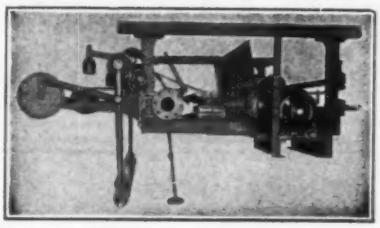

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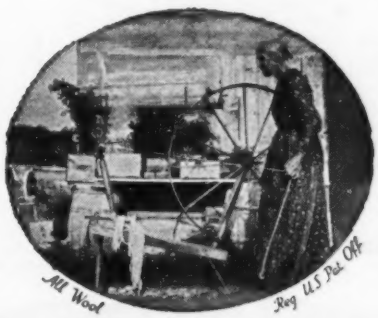

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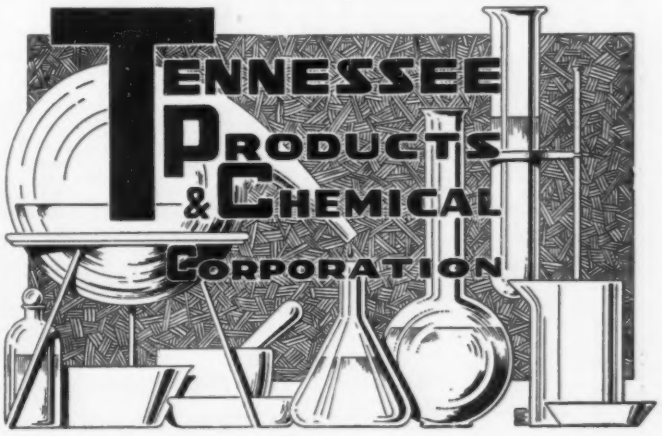

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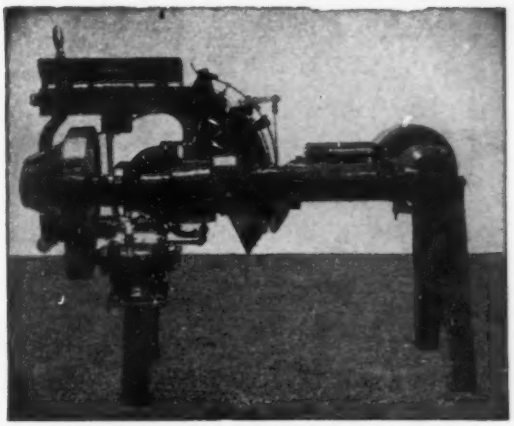

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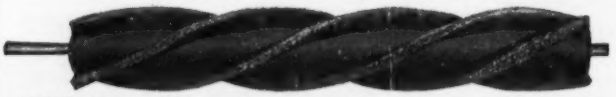

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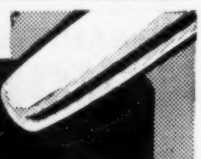

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Positions wanted .05 word per insertion. Minimum charge $1.00 per insertion. Cash with order. Box number address care of TEXTILE INDUSTRIES, Grant Bldg., Atlanta, Ga., count as eight words. Advertisements for help wanted, equipment for sale, for rent or wanted, and professional cards are accepted at display rates only.

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We invite correspondence (confidential) with mill men seeking new positions and employers seeking new personnel.

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1—42" Butterworth 3-Roll Calender.
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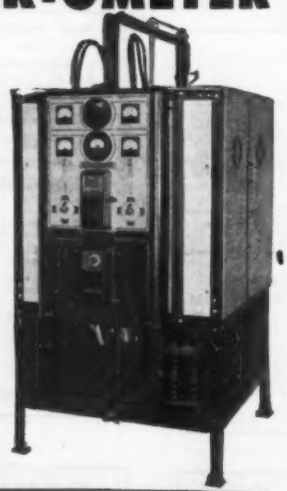

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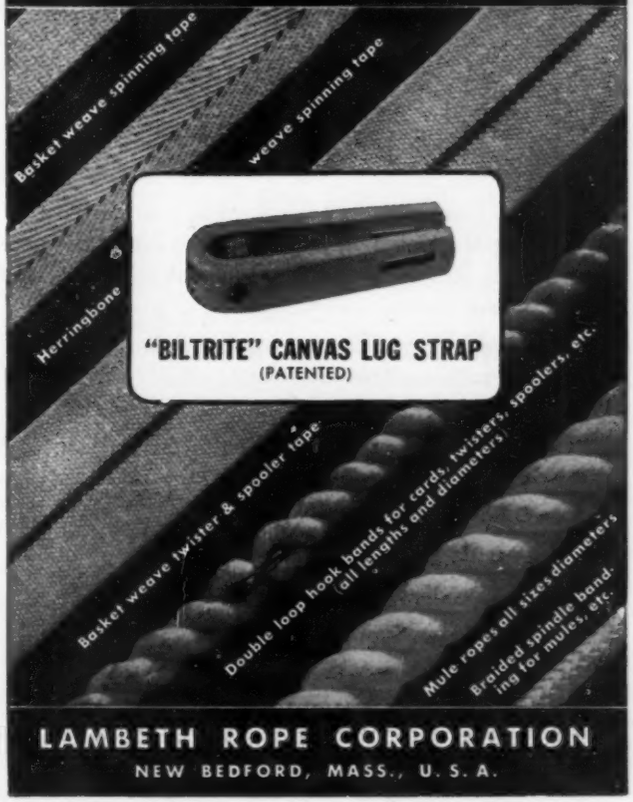
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The reasons for the success of this yarn carrier are as follows:

1. More and better spinning production due to the tapered construction of the bobbin. The larger diameter at the bottom puts less strain on the yarn at the start of the spin which means fewer ends down.

2. More and better production in spooling and rewinding operations. The yarn comes off better from a tapered bobbin.

3. Easier doffing at the spinning frame. Spindle tip suspension and tough but resilient construction of bobbins permit positive seating with finger tip pressure. Thus the bobbins come off easily.

OTHER ADVANTAGES

Like other A. P. T. Yarn Carriers, this tube is made of laminated paper impregnated for moisture resistance and hardened by baking. It is highly resistant to distortion, chipping and splitting, will not splinter and is free from static. Deep, well rounded corrugations permit free but controlled delivery.

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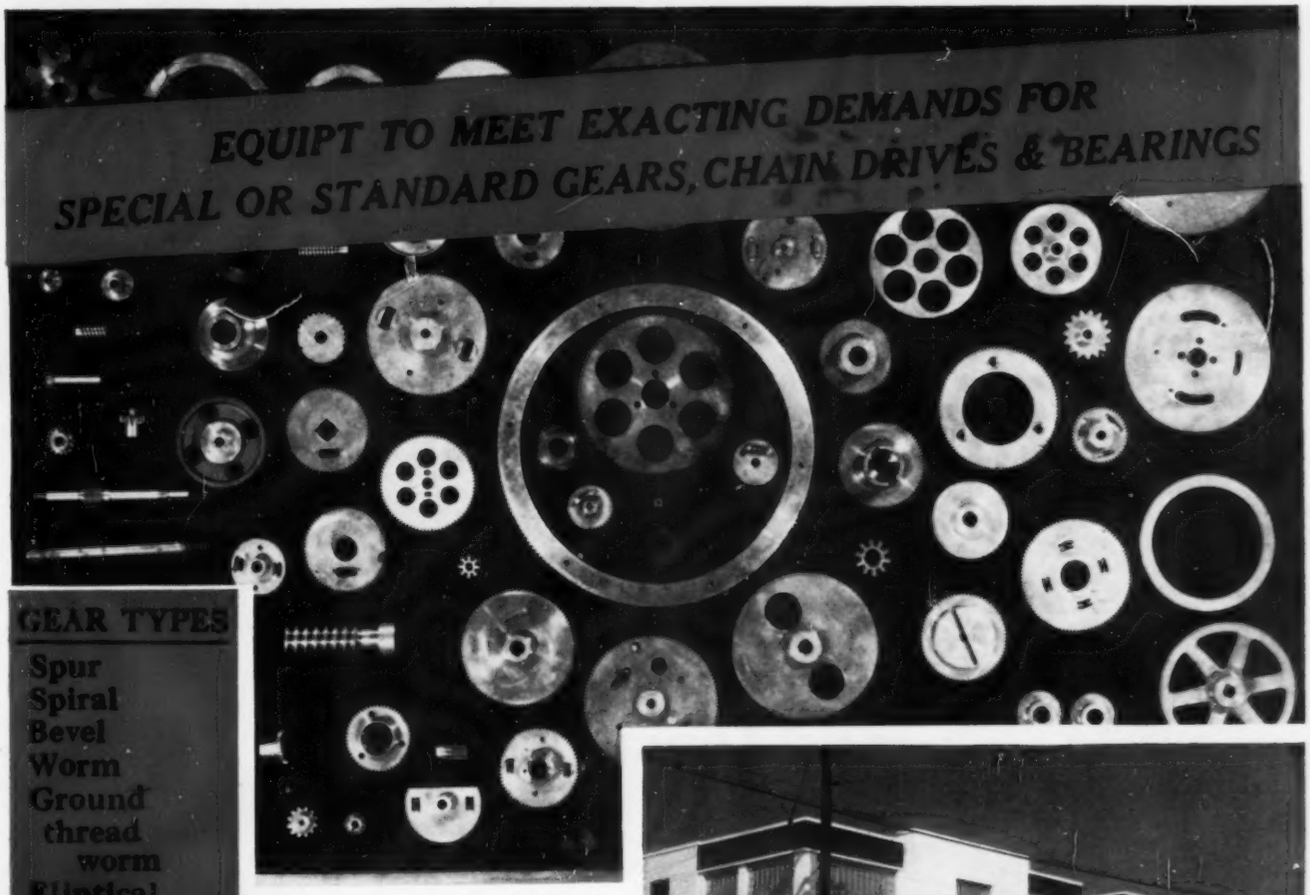

GEAR TYPES

Spur
Spiral
Bevel
Worm
Ground thread worm
Elliptical
Cam
Split
Special form
Sprockets silent and roller

MATERIALS

Brass
Bronze
Stainless
Cast iron
Cast steel
Alloy steel
Aluminum
Silent material
Etc.

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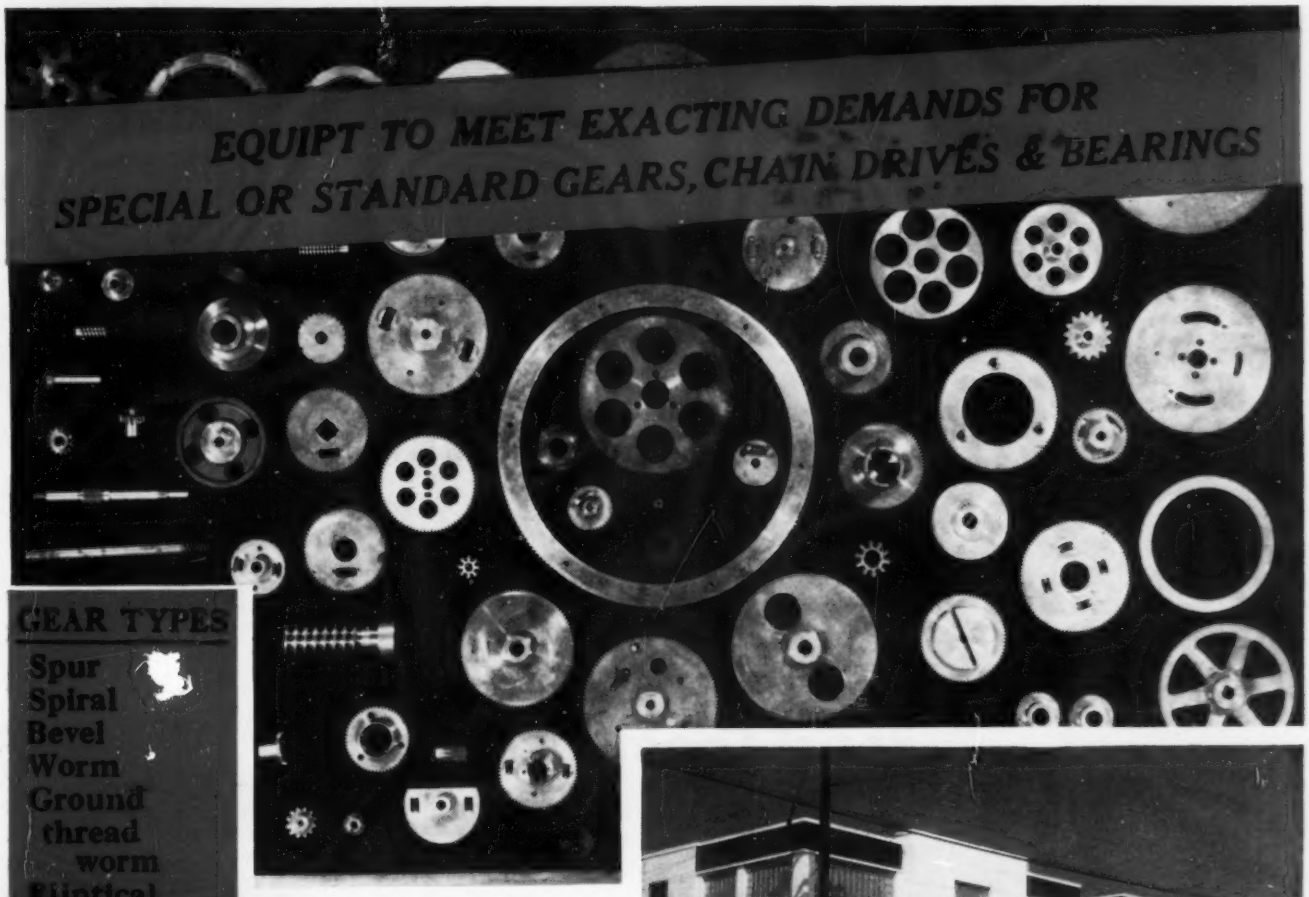

GEAR TYPES

Spur
Spiral
Bevel
Worm
Ground thread worm
Eliptical
Cam
Split
Special form
Sprockets silent and roller

MATERIALS

Brass
Bronze
Stainless
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Alloy steel
Aluminum
Silent material
Etc.

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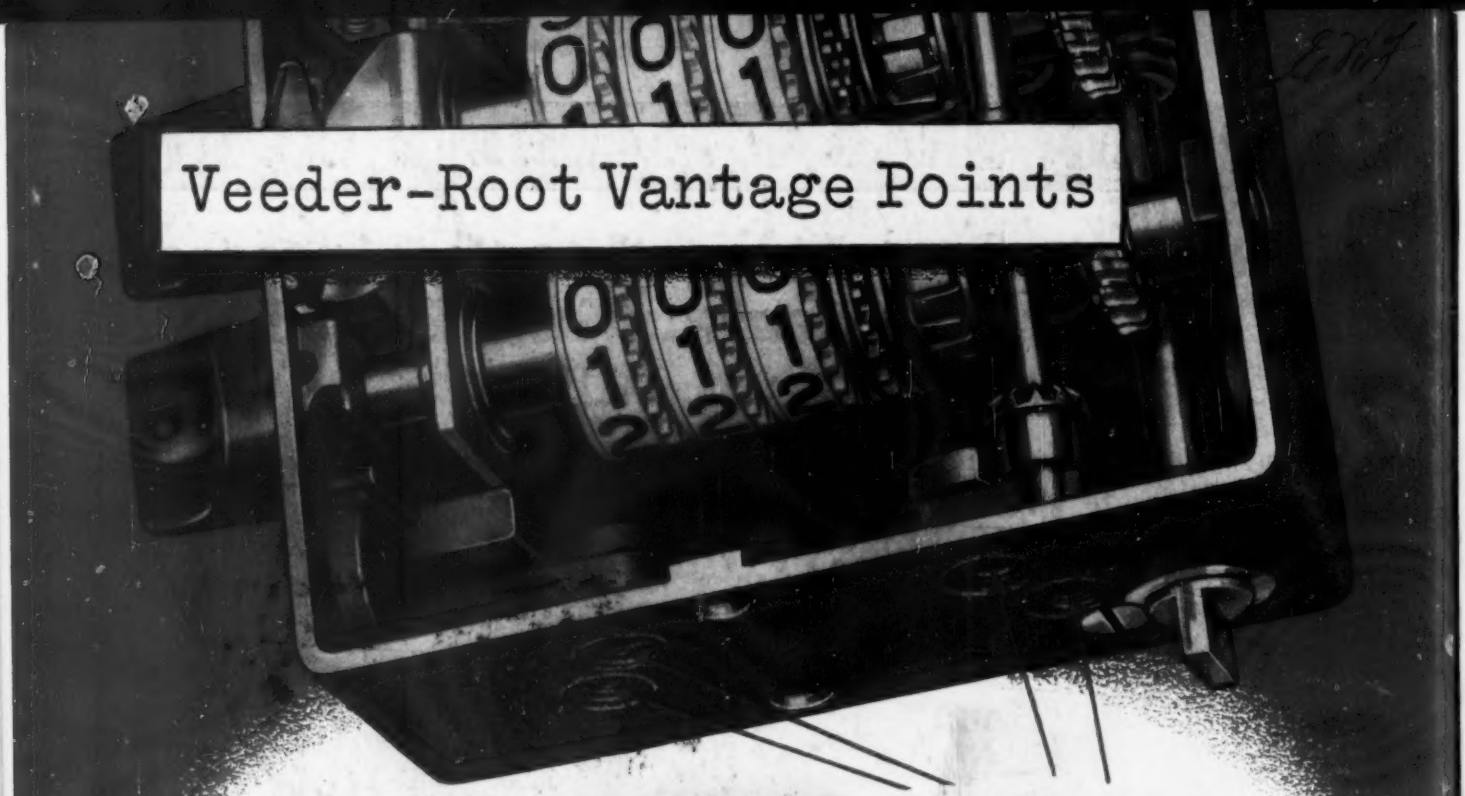

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give greater strength to resist Loom vibration

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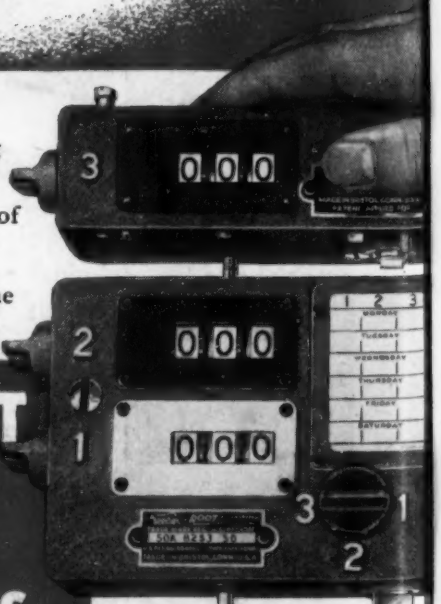

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